A Comparison of Salmon Prices in Alaska and Canada

prepared for

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Foreword

Prices for Alaska salmon have declined substantially over the past four years due to lost market share. In most cases market share has been lost to increased farmed salmon production which has market advantage due to year around availability, consistent high quality and consistent pricing. While Canadian wild salmon has also suffered price declines, they have not been as severe as Alaska. Average Canadian ex-vessel and wholesale prices for sockeye and pink salmon are significantly higher than Alaska salmon prices.

This report explores the extent of and reasons for price differences between Canadian and Alaska salmon pricing. By identifying the reasons for higher prices paid for Canadian salmon, it is hoped the state and the industry can better identify development policies and market strategies that will increase the value of Alaska salmon.

Donna Parker
Fisheries Specialist

EXECUTIVE SUMMARY

Major Findings

For sockeye salmon, average Canadian ex-vessel and wholesale prices are significantly higher than average Alaska prices. In part this results from natural characteristics of Canadian sockeye salmon. But Canadian harvesting, processing and marketing practices play a major role in the production of higher quality end products and higher prices. These include:

- A significantly higher part of the sockeye catch is harvested using troll gear and is frozen at sea.
- Less of the harvest occurs in terminal areas.
- Between 1979 and 1989, exports of frozen sockeye were restricted to Number 1 grade sockeye, contributing to a reputation for superior quality on the Japanese market.
- A significantly higher share of the sockeye harvest is canned--more than half. This contributes to higher average quality of the remaining sockeye which is frozen.

For pink salmon, average Canadian ex-vessel prices have been significantly higher than average Alaska ex-vessel prices since 1991. In part this results from multi-year collective bargaining agreements between processors and unionized fishermen. But Canadian wholesale prices for pink salmon have been consistently higher than Alaska wholesale prices. Reasons for this include:

- Canada has high seafood inspection standards, similar to the HACCP standards planned for the U.S. seafood industry.
- A greater share of the Canadian canned pack is canned in smaller cans, which command higher prices per pound of canned salmon.
- Canadian salmon processors are more vertically integrated with the Canadian retail industry than American processors are with the American retail industry, and have emphasized marketing of canned salmon. Canadian per capita consumption of canned salmon is four times as high as in the United States.
- The Canadian processing work force has higher productivity and is more skilled.
- The Canadian salmon industry has emphasized quality and value-added production as a processing and marketing strategy.

Introduction

This report examines the extent of and reasons for price differences between Alaskan and Canadian salmon, and potential implications for Alaska fisheries development policies. Exchange rates between the Canadian and U.S. dollar have fluctuated widely in recent years. All prices in this report have been converted to U.S. dollars.

The inherent quality of salmon runs from different streams may vary significantly due to differences in factors such as fat content and flesh color. These differences in inherent quality are a major factor in price differences between different regions of Alaska. This report focuses on comparing prices for salmon caught in southeast Alaska and Canada, because the salmon from these adjacent regions are similar in natural attributes.

Overview of the Canadian Salmon Industry

Canadian salmon harvests average about one-third the total volume of Alaska harvests. As in Alaska, sockeye and pink salmon are the most important species.

Harvest gear types vary significantly between Canada and Alaska. A significantly higher share of Canadian salmon is caught with troll gear. In 1991, 17 percent of Canadian sockeye salmon and 18 percent of pink salmon was troll-caught, while only a tiny fraction of Alaska sockeye and pink salmon is troll-caught.

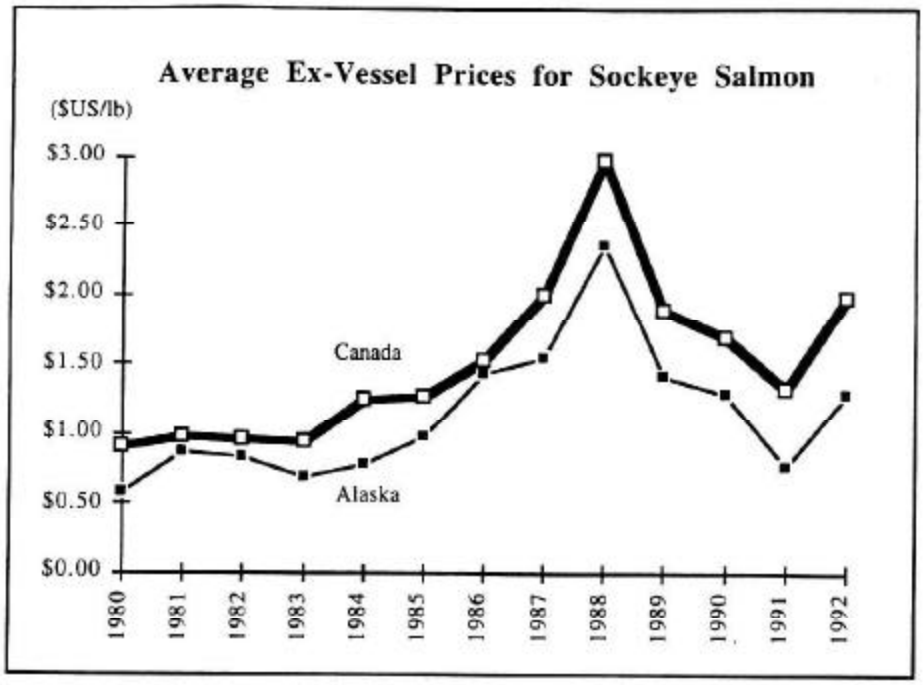
Half or more of Canadian sockeye production is canned. In contrast, only about one-fifth of Alaska sockeye production is canned. In both Alaska and Canada, about four/fifths of pink salmon production is canned. A much larger share of the Canadian canned pack is in smaller cans than in Alaska. Less than ten percent of the average Canadian pack consists of one-pound cans (talls), compared with about two-thirds of the Alaska pack.

Markets for Canadian frozen salmon are similar to those for Alaska frozen salmon. As with Alaska frozen sockeye, almost all Canadian frozen sockeye salmon is exported to Japan.

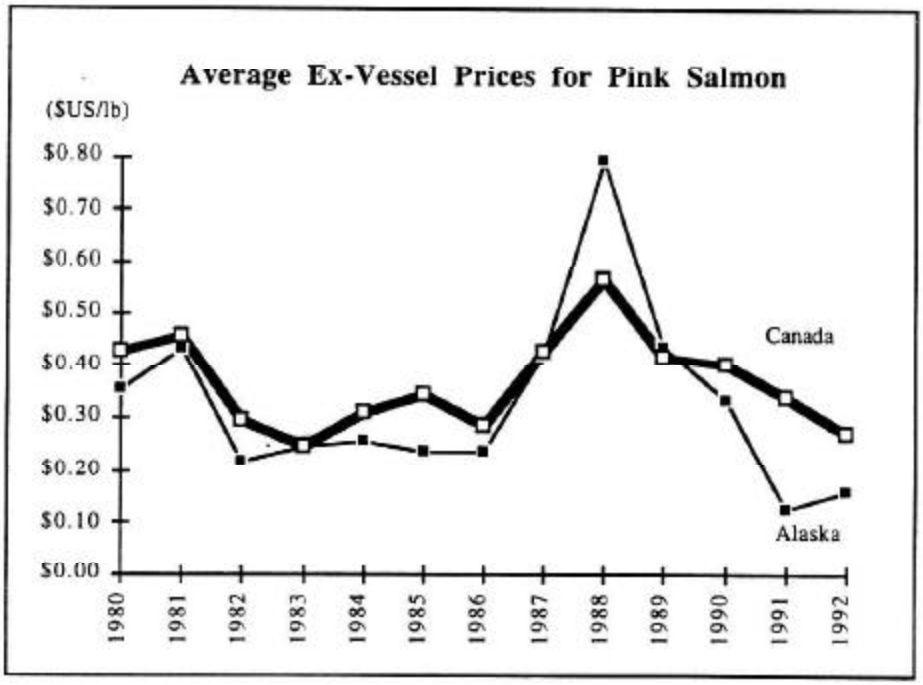
Markets for Canadian canned salmon differ significantly from those for Alaska canned salmon. The United States is the largest market for Alaska canned salmon. In contrast, only a very small share of Canadian canned salmon is exported to the United States, with about half the pack being sold in Canada.

Comparison of Average Canadian and Alaska Ex-Vessel Salmon Prices

Comparisons of average ex-vessel prices between Canada and Alaska suggest that Canadian sockeye salmon enjoys a consistent ex-vessel price advantage over Alaska sockeye salmon.



On average, ex-vessel Canadian pink salmon prices appear to have been equal to or above Alaska prices in every year except 1988, and to have enjoyed a significant price advantage over the past three years.



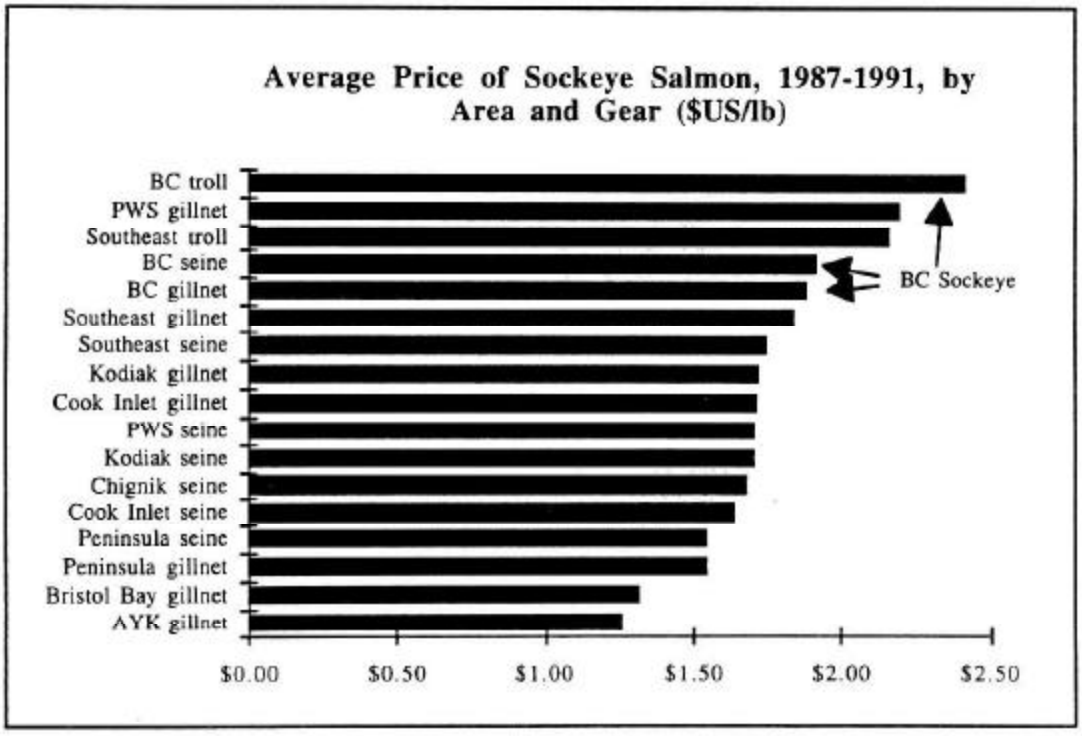
Comparison of Ex-Vessel Prices by Gear Group and Region

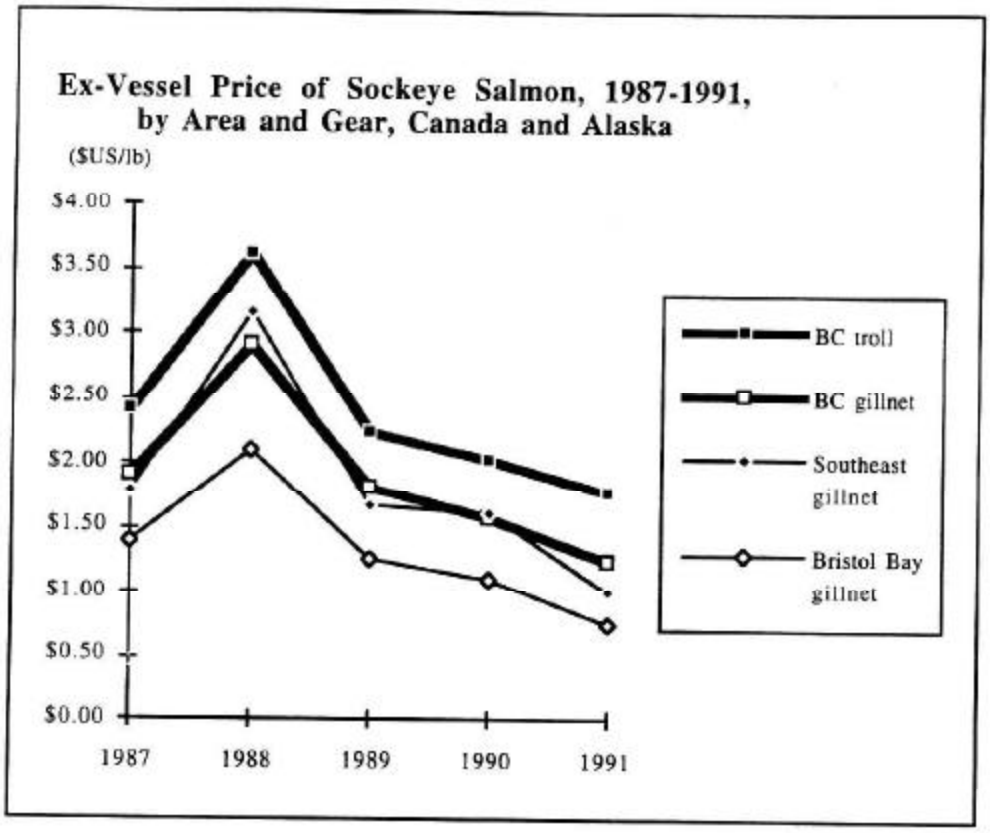
Alaska ex-vessel salmon prices vary widely between different regions and gear types. For this reason, comparisons of Canadian ex-vessel prices with *average* Alaska ex-vessel prices are misleading. To be meaningful, ex-vessel price comparisons should be for specific gear groups and regions.

When comparing ex-vessel prices for a given gear type, differences in average prices are far greater between different regions of Alaska than between Canada and Southeast Alaska. Much of the difference in average ex-vessel sockeye prices between Alaska and Canada results from the fact that Bristol Bay sockeye commands significantly lower prices not only compared with Canadian salmon but also compared with other Alaska gear types.

Sockeye Salmon

When average sockeye salmon ex-vessel prices for the period 1987-1991 are compared by gear type and region, BC troll sockeye commanded by far the highest average price--12 percent higher than Southeast troll sockeye and 83 percent higher than Bristol Bay gillnet sockeye. BC seine and gillnet sockeye prices were slightly higher than for Southeast Alaska seine and gillnet sockeye. Ex-vessel prices for Bristol Bay gillnet sockeye--by far the largest component of Alaska's sockeye harvest--averaged well below not only Canadian sockeye but also sockeye from almost all other Alaska areas.



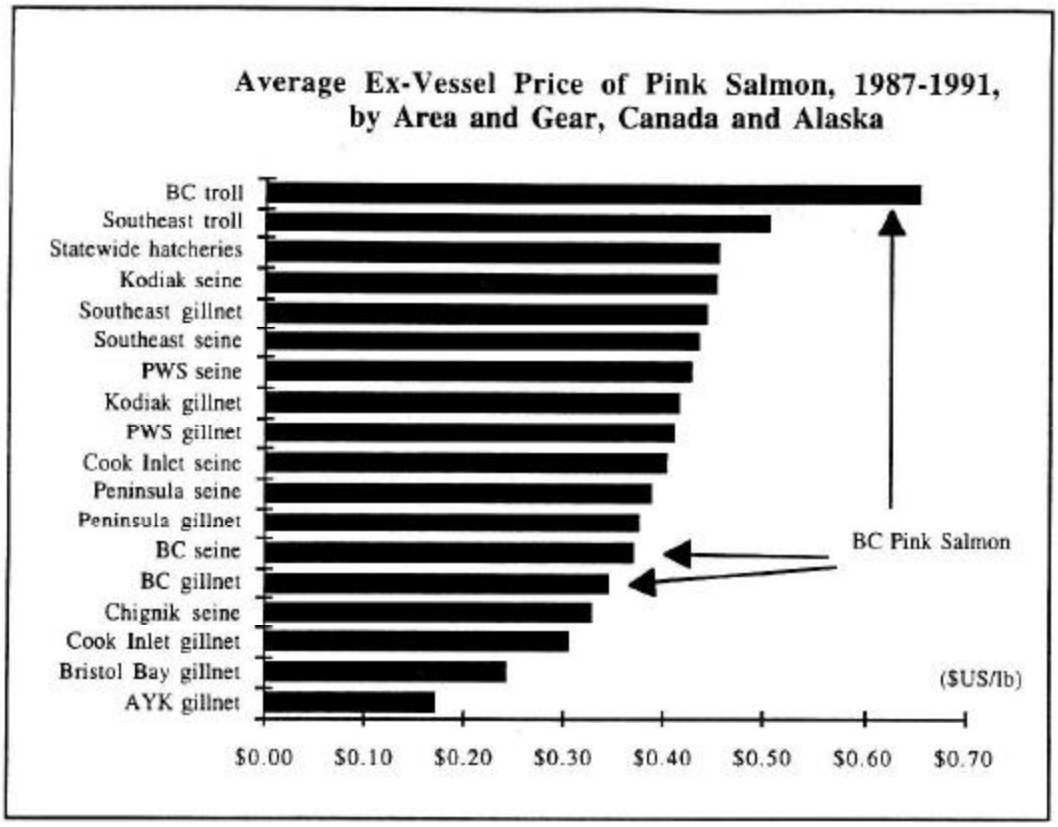


When year-by-year prices are compared for the period 1987-1991, there was no clear or constant differential between the ex-vessel prices of BC gillnet sockeye and Southeast Alaska gillnet sockeye. Both Canadian and Southeast gillnet sockeye enjoyed a clear ex-vessel price advantage over Bristol Bay sockeye.

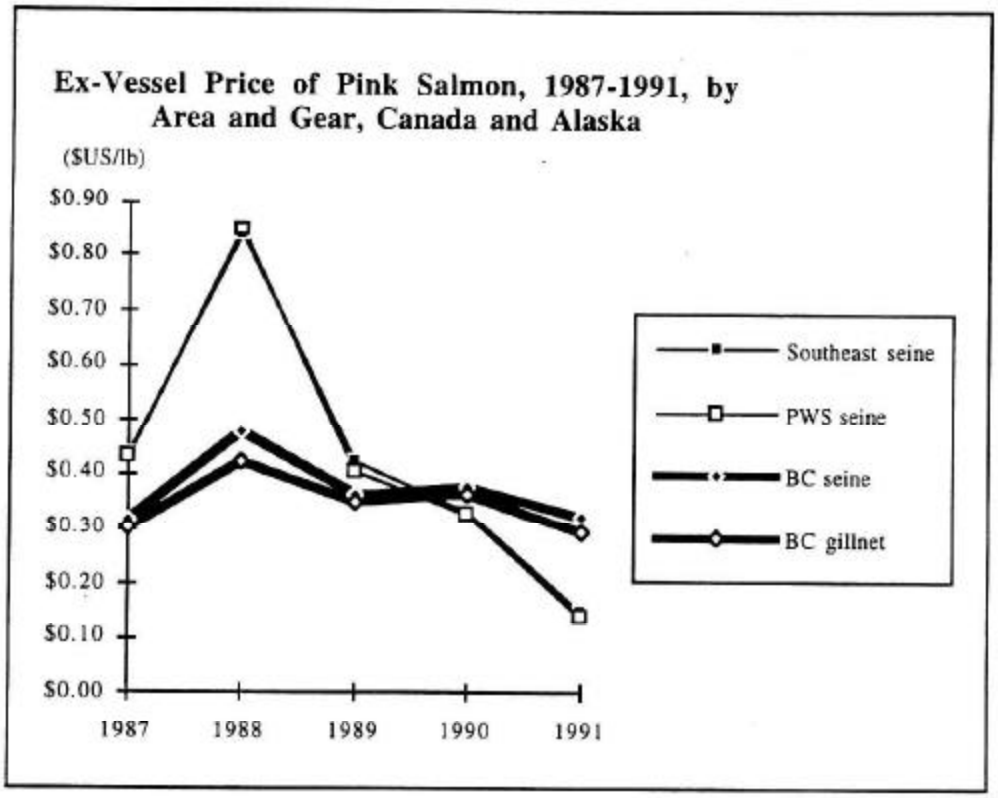
Pink Salmon

From 1987-1991, BC ex-vessel prices for troll-caught pink salmon averaged far higher than for any gear type or region in Alaska--almost 30 percent higher than for troll-caught pink salmon from southeast Alaska.

Average 1987-91 Canadian ex-vessel prices for pink salmon were well below Alaska prices for most areas and gear groups--with the notable exception of troll-caught Canadian salmon. However, these average prices conceal very different price trends for Canadian and Alaska pinks during this period. Canadian prices were significantly higher than Alaska prices in 1990 and 1991.



In Alaska, ex-vessel pink salmon prices rose sharply in 1988 and then fell sharply in 1989, 1990, and 1991. In Canada, ex-vessel prices rose only slightly in 1988, but the fall was much less severe between 1988 and 1991. As a result, in 1991 Canadian ex-vessel pink salmon prices were more than twice as high as prices in Prince William Sound and Southeast Alaska (32 cents/lb compared with about 13 cents/lb).



Comparison of Canadian and Alaska Wholesale Prices

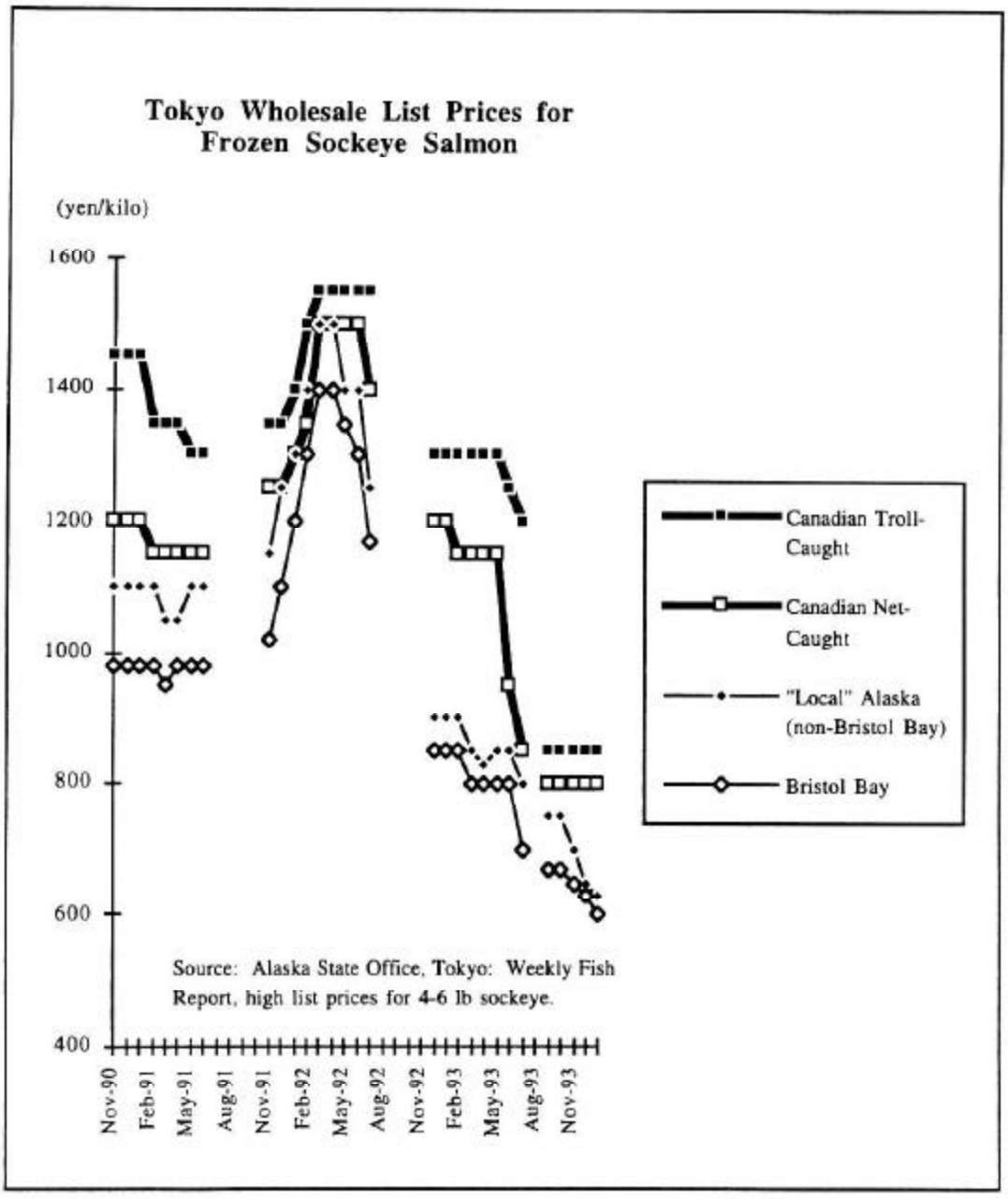
Canadian canned sockeye command only a slightly higher average price than southeast Alaska canned sockeye. Both Canadian and southeast Alaska average canned prices are far higher than the average statewide price for canned Alaska sockeye. It is likely that this lower average statewide price reflects a much lower average price for canned Bristol Bay sockeye.

Sockeye Salmon Average Wholesale Prices, 1990

	Canada	Southeast	All Alaska
Canned	$4.22	$4.17	$3.38
Frozen	$3.14	$2.88	$2.45
Fresh	$2.58	$3.13	$2.66

Frozen Canadian sockeye commands a much higher average wholesale price than frozen southeast Alaska sockeye, which in turn commands a higher price than the average Alaska price. It should be remembered that the Canadian wholesale price includes the price paid for frozen troll-caught sockeye, which command a significantly higher price in the Japanese export market.

Frozen Canadian sockeye salmon--almost all of which is exported to Japan--commands a significantly higher average price in Japan than Alaska sockeye salmon. There are four distinct price tiers between Canadian troll-caught sockeye, Canadian net-caught sockeye, "Local" (non-Bristol Bay) Alaska sockeye, and Bristol Bay Alaska sockeye. In January 1994, the Tokyo wholesale list price of Canadian troll-caught sockeye was 41 percent higher than the wholesale price of Bristol Bay sockeye. Canadian net-caught sockeye commanded a wholesale price 27 percent higher than non-Bristol Bay Alaska sockeye.



Average wholesale prices for Canadian canned pink salmon are significantly higher than for Alaska salmon. In part, this is because a much larger share of Canadian production is packed in smaller cans (quarter and half-pound cans as opposed to one-pound cans), which command higher average prices per pound. Canadian canned salmon also commands a higher reputation for quality.

Pink Salmon Average Wholesale Prices, 1990

	Canada	Southeast	All Alaska
Canned	$2.14	$1.71	$1.73
Frozen	$1.11	$0.94	$.79
Fresh	$1.10	$1.01	$.73

Average wholesale prices in 1990 for Canadian frozen pink salmon were significantly higher than for southeast Alaska, which were in turn higher than for all of Alaska. It should be remembered that Canadian frozen salmon includes troll-caught pink salmon.

Explanations for Differences in Ex-Vessel Prices Between Alaska and Canada

Collective Bargaining. The United Fishermen and Allied Workers' Union (UFAWU) represents many but not all Canadian seine and gillnet salmon fishermen in annual negotiations with the Fish Processors' Bargaining Association of British Columbia, which represents the five major British Columbia processing companies. Permission for groups of processors to negotiate about price with groups of fishermen is provided by a specific exemption in Canadian anti-trust law. However, fishermen are not covered under collective bargaining labor laws and Canadian labor law does not clearly define how fish price negotiations are to be carried out.

Negotiations between the union and the processors establish minimum ex-vessel prices. In most recent years, actual ex-vessel prices have been higher than the minimum price. Thus in most years, collective bargaining has probably not been a major factor affecting differences between ex-vessel prices in Canada and Alaska.

In 1991 and 1993 multi-year price agreements between the union and the processors played a significant role in keeping Canadian ex-vessel pink salmon prices higher than Alaska prices. A three-year agreement covering the period 1989-1991 kept Canadian ex-vessel pink salmon prices far higher than Alaska prices when the pink salmon market crashed in 1991. A two-year agreement covering 1992-1993 also supported ex-vessel pink salmon prices in 1993.

The minimum sockeye price established by the 1992-1993 two-year agreement may have supported Canadian ex-vessel sockeye prices in 1993. However, this remains uncertain. A dispute between the union and the processors about the interpretation of a reopener provision in the agreement is in arbitration.

Inherent Fish Quality. Canadian sockeye salmon have high oil content and other characteristics which contribute to high inherent quality. As with some Alaska sockeye runs, such as Copper River Reds, higher natural quality of the fish contributes to higher prices for Canadian sockeye than for Bristol Bay sockeye.

Emphasis on Quality. The B.C. processing industry has tried to differentiate its product in world markets mainly through quality. Handling practices, in-plant control, workmanship and stricter federal government inspection standards have helped B.C. processors achieve a reputation for high quality.

Harvest Locations. A significant share of the B.C. salmon harvest is taken by net fisheries on salmon migration routes before the fish enter their spawning rivers. Alaska salmon fisheries tend to take place much closer to the mouths of rivers and streams where salmon spawn.

Harvest Gear. The fact that almost one-fifth of the Canadian sockeye and pink salmon harvest is troll-caught results in higher average quality of the harvest--in particular that portion of the catch which is sold on the frozen market. Canadian troll-caught sockeye command a premium price on the Japanese market. In turn, troll-caught sockeye command higher average ex-vessel prices than seine and gillnet-caught salmon. This is a major factor in explaining the higher *average* ex-vessel prices for Canadian sockeye salmon.

Seafood Inspection. Canada's mandatory seafood inspection program is similar to the HACCP quality standards planned for the U.S. industry. Inspection standards are high. Canadian Processing plants are inspected as to compliance with construction, equipment, operations, process control and sanitary criteria.

Export Restrictions. In the late 1970's the Canadian government restricted exports of frozen sockeye and pink salmon to Grade A quality salmon. Quality standards for frozen sockeye and pink salmon were established by the Canadian government, under which frozen fish were graded as Grade A, Standard, or Utility. In 1989, the export restrictions were ended as a result of trade agreements under the GATT.

The primary purpose of the export restrictions on frozen sockeye and pink salmon was not to improve the quality and reputation of Canadian salmon in export markets--although this was an effect. Instead, the purpose was to protect the BC canning industry from losing its raw material to Japanese buyers who were bidding up the price of salmon.

The export restrictions contributed to a high quality reputation for Canadian sockeye and pink salmon in the Japanese market, and a corresponding significant price premium over Alaska salmon. Canada continues to enjoy this price premium today, although the relative difference in quality may have declined since the lifting of the export restrictions.

An important issue is whether the export standards actually led to the achievement of higher quality in salmon harvesting and processing. A study of the Canadian processing industry commented that the standards "tended to improve handling of freezer grade fish in the plant" but made no mention of other quality effects.

Canned Salmon Marketing. The B.C. salmon industry has cultivated the Canadian domestic canned market through branding of product, and by canning a substantial quantity of 1/4 lb cans. Major canners label their product and sell directly to grocery store chains. Two of the largest processors are controlled by companies with a strong presence in the Canadian retail grocery market. There is strong brand identification with retailers and consumers. In contrast, in the United States larger food companies are not integrated with canned salmon processors and do little to promote salmon generically. The Canadian canned salmon market is much more developed than the United States market. Canadian annual per capita consumption of canned salmon is estimated at .6 kg compared with only .14 kg in the United States.

Resource Taxes. B.C. fish processors do not pay direct resource taxes corresponding to Alaska's Fisheries Business Tax. This allows them to pay salmon fishermen a correspondingly higher price.

Processing Costs. B.C. fish processors face higher wage costs than do Alaska processors. However, labor productivity is higher and the labor force is more skilled. In addition, B.C. processors do not pay costs of feeding and housing processing workers. B.C. processors also face lower costs for energy, transportation of supplies, and transportation of products to market.

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Preface

This report was prepared during the Fall of 1993 for the Alaska Department of Commerce and Economic Development's Division of Economic Development.

I am indebted to many Canadians who offered their assistance, suggestions, and insights into the Canadian salmon industry during a visit to Vancouver in October 1993. In particular I would like to thank Gordon Gislason of the ARA Consulting Group, Inc.; Peter Leitz and Carmen Matthews of the Aquaculture and Commercial Fisheries Branch of the British Columbia Ministry of Agriculture, Fisheries and Food; Maureen Kostner and Sheila Fagnan of the Canadian Department of Fisheries and Oceans; Rob Morley of the Fish Processors' Bargaining Association of British Columiba; John Sutcliffe of the United Fishermen and Allied Workers Union; Evelyn Pinkerton of the University of British Columbia; and Parzival Copes and Chris Wright of Simon Fraser University.

Herman Savikko and Wendy Parker of the Alaska Department of Fish and Game and Elaine Dinneford of the Commercial Fisheries Entry Commission provided detailed data on Alaska salmon harvests, production and prices. Donna Parker of the Alaska Department of Commerce and Economic Development's Division of Economic Development invited me to prepare this report and provided many helpful suggestions. Professor Jim Anderson of the University of Rhode Island offered many suggestions and insights. Tanya Lisenko and Teresa Hull of the Institute of Social and Economic Research assisted with data collection and data entry.

These persons have contributed greatly to any strengths of this report; I am entirely responsible for any weaknesses or errors.

I. INTRODUCTION

There is a widespread perception in Alaska that Canadian fishermen receive higher ex-vessel prices for salmon than Alaska fishermen. This report examines the extent of and reasons for differences between Canadian and Alaskan salmon prices. The primary objectives of the report are to:

1. Quantify the extent to which Canadian ex-vessel and wholesale prices for salmon differ from Alaska prices;

2. Explain why these price differences occur; and

3. In particular, identify specific Canadian federal and/or provincial government policies which may contribute to higher prices in Canada than Alaska.

This report does not provide a comprehensive analysis of the reasons for differences between Canadian and Alaskan salmon prices, but rather an introduction. Many different factors, in every part of the salmon industry from harvesting to retailing, contribute to price differences. To fully understand the relative importance of all of these factors would require a comprehensive analysis of both the Canadian and Alaska salmon industries. Financial resources available for this study were limited and did not permit this kind of comprehensive analysis. Further research on many of the topics addressed in this report would be instructive.

Comparisons of the Alaskan and Canadian salmon industry are useful. The Canadian salmon industry, and federal and provincial policies affecting the salmon industry, provide many contrasts with Alaska which suggest steps that could be taken to achieve higher prices for Alaska salmon. However, as in Alaska, not all is well in the Canadian salmon industry, and Canada should not necessarily be viewed as a perfect model for Alaska to follow.

Throughout this report, I use the term "Canada" to refer only to British Columbia. All data are for wild (including hatchery) salmon harvests and production: farmed salmon are not included.

Exchange rates between the Canadian and U.S. dollar have fluctuated widely in recent years. Except where otherwise noted, all Canadian prices in this report have been converted to U.S. dollars.

The inherent quality of salmon runs from different streams may vary significantly due to differences in factors such as fat content and flesh color. These differences in inherent quality are a major factor in price differences between different regions of Alaska. Where possible, I have compared the Canadian salmon industry with the southeast Alaska salmon industry, because the salmon from these adjacent regions are similar in natural attributes.

Chapter II of this report provides an overview of the Canadian salmon industry. Chapter III compares Canadian and Alaska salmon prices. Chapter IV examines reasons for these price differences. The emphasis of the discussion in these chapters is on sockeye and pink salmon, which represent the largest share of Canadian harvests as well as Alaska harvests.

Appendix A documents sources for data used in the report. Appendix B provides data tables with detailed statistical information about the Canadian salmon industry, as well as comparable information about the Alaska salmon industry. These tables include all the data used to prepare the graphs in this report. Appendix C provides data graphs--seven for each species--which compare Canadian salmon harvests, wholesale production, and prices. Appendix D provides a copy of a price agreement between Canadian processing companies and the United Fishermen and Allied Workers' Union.

The data in Appendixes C and D permit detailed comparisons of Canadian and Alaskan salmon harvests, production, and prices. Neither budget nor space permitted a full analysis of all of this data, in particular for coho, chinook and chum salmon. Interested readers may obtain additional insights by studying these data and graphs.

II. OVERVIEW OF THE CANADIAN SALMON INDUSTRY

Salmon Harvests

Canada is the world's fourth largest producer of wild (including ranched) salmon, after the United States, Japan and Russia. Canadian salmon harvests average about one-third the total volume of Alaska harvests. As in Alaska, sockeye and pink salmon are the most important species. However, these species represent a smaller share of the total harvest than in Alaska.

Average Volume of Alaska and British Columbia Wild Salmon Harvests, 1980-1992 (million lbs)

Species	Alaska	Canada	Canadian harvest as % of Alaska harvest		
			Average	Highest year	Lowest year
Chinook	12.8	12.5	97%	120%	76%
Sockeye	241.0	49.6	21%	35%	9%
Coho	37.6	20.5	54%	89%	31%
Pink	247.1	57.8	23%	45%	4%
Chum	84.6	33.3	39%	63%	14%
TOTAL	623.1	173.7	28%	38%	17%

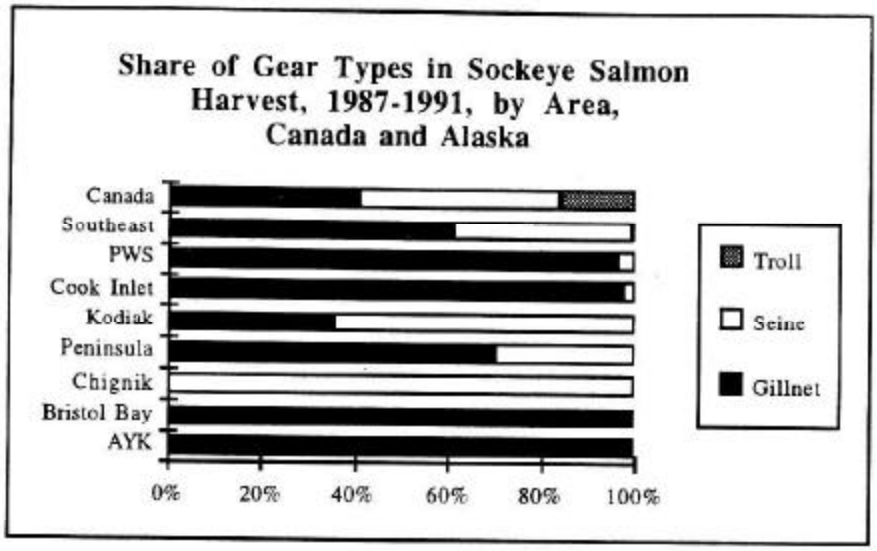
ISER file: Selected harvest volumes.

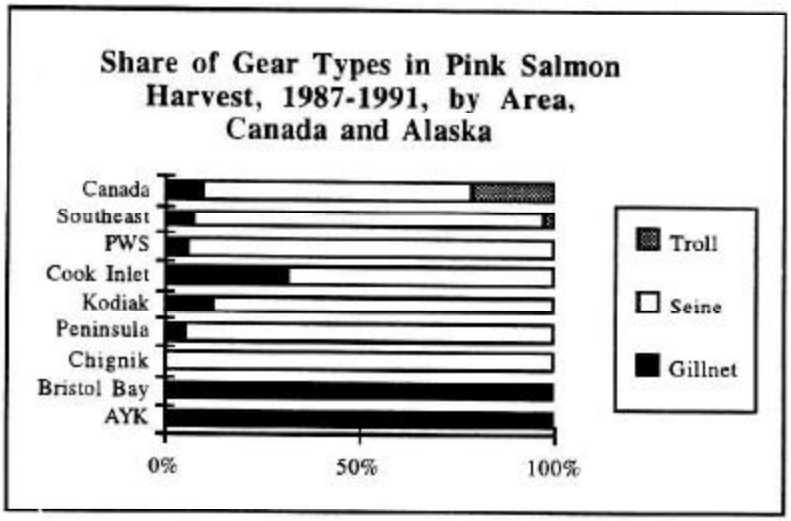
Between 1980 and 1992, the total volume of salmon harvested in British Columbia ranged from as high as 38 percent of the Alaska volume to as low as 17 percent of the Alaska volume. British Columbia sockeye and pink harvests average less than one-quarter of Alaska harvest volumes of sockeye and pink. British Columbia chum salmon harvests average about two-fifths of Alaska harvests. British Columbia coho harvests average slightly more than half of Alaska harvests. British Columbia chinook salmon harvests are about the same as Alaska harvests.

Because they constitute the largest share of harvest volume and value in both Alaska and Canada, this report focuses primarily on sockeye and pink salmon.

Harvest Gear Types

Harvest gear types vary significantly between Canada and Alaska. As shown in the graphs on the following page, a significantly higher share of Canadian salmon is caught with troll gear. In 1991, 17 percent of Canadian sockeye salmon and 18 percent of pink salmon was troll-caught, while only a tiny fraction of Alaska sockeye and pink salmon was troll-caught.





Wholesale Production

Sockeye Salmon Production

There is a striking contrast between the structure of wholesale production of sockeye salmon in Alaska and Canada. Half or more of Canadian sockeye production is canned. In contrast, only about 20 percent of Alaska sockeye production is canned.

Sockeye Salmon Wholesale Production, 1990

	Canada	Southeast	All Alaska
Production (million lbs)			
Canned	35,126	1,449	34,922
Frozen	22,211	7,682	156,140
Fresh	4,158	159	2,436
Other		54	1,151
TOTAL	61,495	9,344	194,649
Share of production			
Canned	57%	16%	18%
Frozen	36%	82%	80%
Fresh	7%	2%	1%
Other		1%	1%
TOTAL	100%	100%	100%

Note: Data for "Other" production not available for Canada.

Pink Salmon Production

Although the percentage of pink salmon which is canned is similar in Canada and Alaska, there are important differences in the mix of can sizes which are produced. A recent Canadian study suggested an average Canadian can pack mix of 5-10% 1 lb cans, 65-70% 1/2 pound cans, and 20-25% 1/4 lb cans. In Alaska, the average canned pack mix is about two-thirds 1 lb cans and one-third 1/2 lb cans, with very few 1/4 lb cans.[1]

Pink Salmon Wholesale Production, 1990

	Canada	Southeast	All Alaska
Production (million lbs)			
Canned	37,311	46,763	118,104
Frozen	7,039	9,416	32,649
Fresh	1,358	578	2,080
Other		5	2
TOTAL	45,708	56,763	152,835
Share of production			
Canned	82%	82%	77%
Frozen	15%	17%	21%
Fresh	3%	1%	1%
Other		0%	0%
TOTAL	100%	100%	100%

Note: Data for "Other" production are not available for Canada.

Markets

Markets for Canadian frozen salmon are similar to those for Alaska frozen salmon. Almost all Canadian frozen sockeye salmon are exported to Japan. About one-half of the Canadian canned salmon pack is sold within Canada.

[1]The ARA Consulting Group Inc., B.C. Fish Processing Sector Outlook, page 2-4.

In contrast, markets for Canadian canned salmon are very different from those for Alaska canned salmon. The United States is the largest market for Alaska canned salmon, followed by exports to the United Kingdom. In contrast, only a very small share of Canadian canned salmon is exported to the United States. About half is sold in Canada, and a substantial share is exported to the United Kingdom.

Canadian Canned Sockeye Salmon Markets, 1990

	48 lb. Cases	Percent
Canned Pack (48 lb cases)	731,791	100%
Exports	342998	47%
United Kingdom	283942	39%
Australia	25302	3%
United States	11349	2%
Other Countries	22405	3%
Sold in Canada*	388,793	53%

*Calculated as pack minus exports; does not take account of changes in inventories. ISER file: SOCKEYE WHOLESALE ANALYSIS.

Canadian Canned Pink Salmon Markets, 1990

	48 lb. Cases	Percent
Canned Pack (48 lb cases)	777,308	100%
Exports	474998	61%
United Kingdom	181023	23%
Australia	68094	9%
Belgium	77167	10%
New Zealand	60363	8%
Netherlands	34753	4%
Italy	20976	3%
Ireland	16146	2%
United States	11349	1%
Other Countries	5127	1%
Sold in Canada*	302,310	39%

*Calculated as pack minus exports; does not take account of changes in inventories. ISER file: SOCKEYE WHOLESALE ANALYSIS.

Processing Industry

In 1988, there were 226 fish processing plants in British Columbia licensed by the Province--13 canning operations sometimes combined with cold storage, 118 cold storage plants, and 96 consisting of packing and other types of processing. Nine of the thirteen canneries were operated by medium to large processors, the other four being much smaller single line plants. Over 90 percent of the canning capacity was concentrated in the Lower Mainland and Prince Rupert. Freezing and cold storage facilities are more widely dispersed along the coast. The Lower Mainland accounted

for 70 percent of fish processing person-years, followed by the Central and North Coast (21 percent).[2]

Most B.C. fish processing is carried out by privately held Canadian-owned companies. In contrast to Alaska, there is no significant Japanese ownership of large processors. Four major processors purchase and process two thirds of B.C. salmon. These majors produced over 80 percent of all canned salmon in 1989, but only 30 percent of total fresh/frozen salmon. B.C. processors generally sell to highly concentrated foreign buyers such as John West in the United Kingdom and to a limited number of Japanese trading houses for frozen salmon.

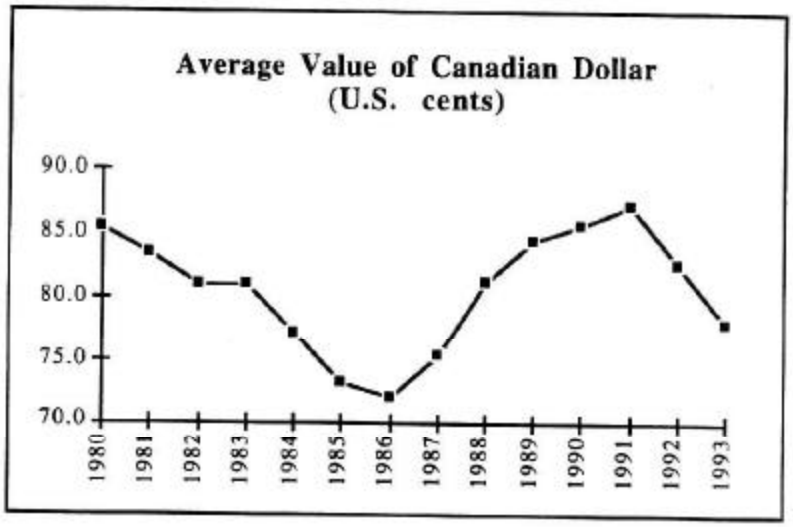
[2]The discussion in this section is based on information presented in The ARA Consulting Group Inc., B.C. Fish Processing Sector Outlook, pages 2-6 through 2-8.

III. COMPARISON OF CANADIAN AND ALASKA SALMON PRICES

Converting from Canadian to U.S. Dollars

Any comparison of Canadian and U.S. prices must allow for the difference in the value of the Canadian and U.S. dollar. The fact that the two currencies have the same name makes it easier to make the simple mistake of assuming that they are the same value. They do not. Adding to the difficulty of comparison is that there is significant fluctuation in the relative value of the two currencies from year to year, and within years, from month to month.

Between 1980 and 1992 the average annual value of the Canadian dollar, in U.S. currency, ranged from as low as 71 cents to as high as 87 cents. In 1992, the *average* value of the Canadian dollar was 82.7 cents. But during the year the value fell from 86 cents in January to 79 cents in December.[1] This raises a number of practical problems in comparing prices. If we want to know what fishermen got paid, translated to U.S. dollars, should we convert the Canadian price based on the exchange rate during the fishing season, when they got paid, or during the year as a whole, when they spent most of the money? If we think we should use the rate during the fishing season, what if the rate was changing significantly during the season?



There isn't any easy or obvious answer to this problem. In this report, all conversions to U.S. dollars are based on the annual average exchange rates shown on the table on the following page. Readers should be aware that different but reasonable choices of exchange rates might result in slightly higher or lower values expressed in U.S. dollars. *Throughout this report, all Canadian prices have been converted to U.S. dollars .*

[1]Monthly exchange rate data are published in the U.S. Department of Commerce's Survey of Current Business, Table C-5.

Exchange Rates Between the Canadian Dollar and the U.S. Dollar

	Average value of one Canadian dollar (in U.S. cents)	Average value of one U.S. dollar (in Canadian dollars)
1980	85.5	1.1693
1981	83.4	1.1990
1982	81.0	1.2344
1983	81.1	1.2325
1984	77.2	1.2953
1985	73.2	1.3658
1986	72.0	1.3896
1987	75.4	1.3259
1988	81.3	1.2306
1989	84.4	1.1842
1990	85.7	1.1668
1991	87.3	1.1460
1992	82.7	1.2085
1993	78.0	1.2820

Sources: 1980-1991: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1992, page 850.
1992 and 1993: U.S. Department of Commerce, Bureau of Economi Analysis, Survey of Current Business, August 1993, page C-5.
All rates are annual average except for 1993 which is July average.
ISER file: CANADA EXCHANGE RATE.

Comparison of Average Ex-Vessel Prices

The following comparison of ex-vessel prices relies primarily on data for the years 1987-1991. These were the only years for which ex-vessel price data by gear type and region are available for both Alaska and Canada. Detailed ex-vessel price data by gear type were not available for Canada for years before 1987 or after 1991.[2]

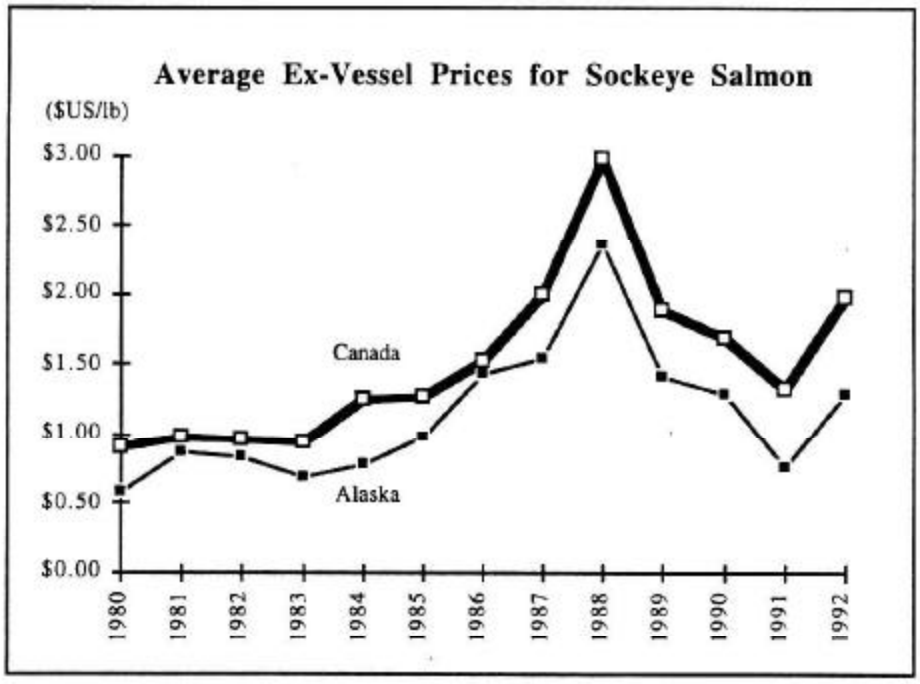
On average between 1987 and 1991, Canadian fishermen received significantly higher ex-vessel prices than did Alaska fishermen for sockeye, chum and coho salmon. On average, ex-vessel pink salmon prices were almost the same. On average, Canadian chinook salmon prices were 11 percent lower than Alaska chinook salmon prices.

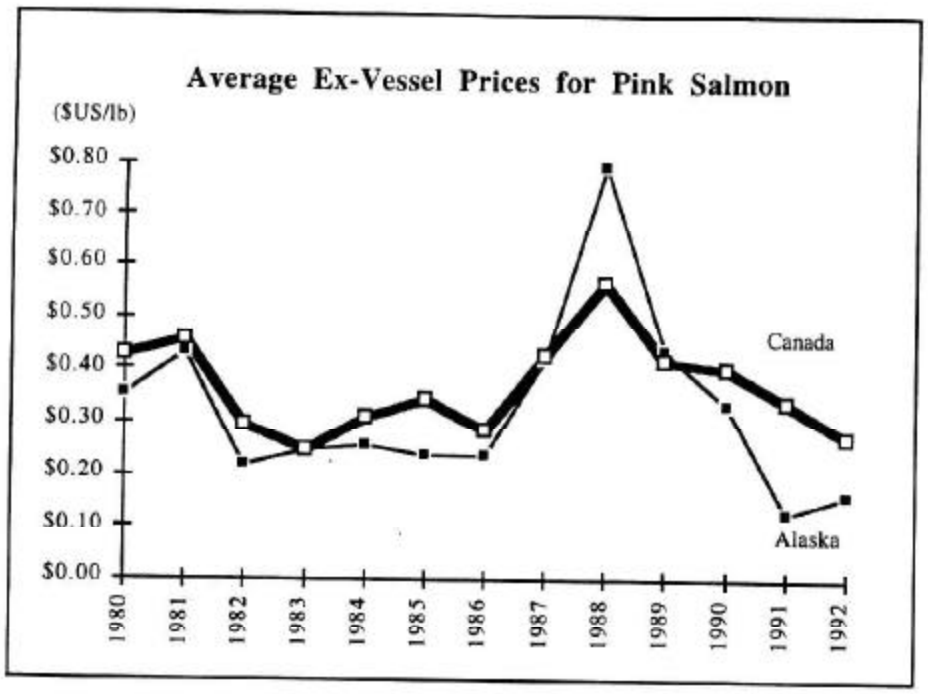
[2]In general average Canadian ex-vessel prices for years before 1987--aggregating all gear types--track closely with average Alaska prices, maintaining a constant differential similar to the average differential during the period 1987-1991.

Average Ex-Vessel Prices, 1987-1991

	Alaska	Canada	Canadian Price Advantage
Chinook	$2.07	$1.85	-11%
Sockeye	$1.47	$1.97	34%
Coho	$1.08	$1.24	15%
Pink	$.42	$.43	1%
Chum	$.49	$.71	44%

As shown in the graphs on the following page, over the period 1980-1992 the average Canadian ex-vessel price for sockeye maintained a significant price differential above the average Alaska ex-vessel price. For pink salmon, the average price relationship was not as stable. Prior to 1987 the average Canadian price was equal to the average Alaska price in some years and significantly higher in other years. In 1988 the average Canadian ex-vessel price was far lower than the average Alaska price. From 1990 through 1992, when the average Alaska price crashed, the average Canadian price was much higher than the average Alaska price.





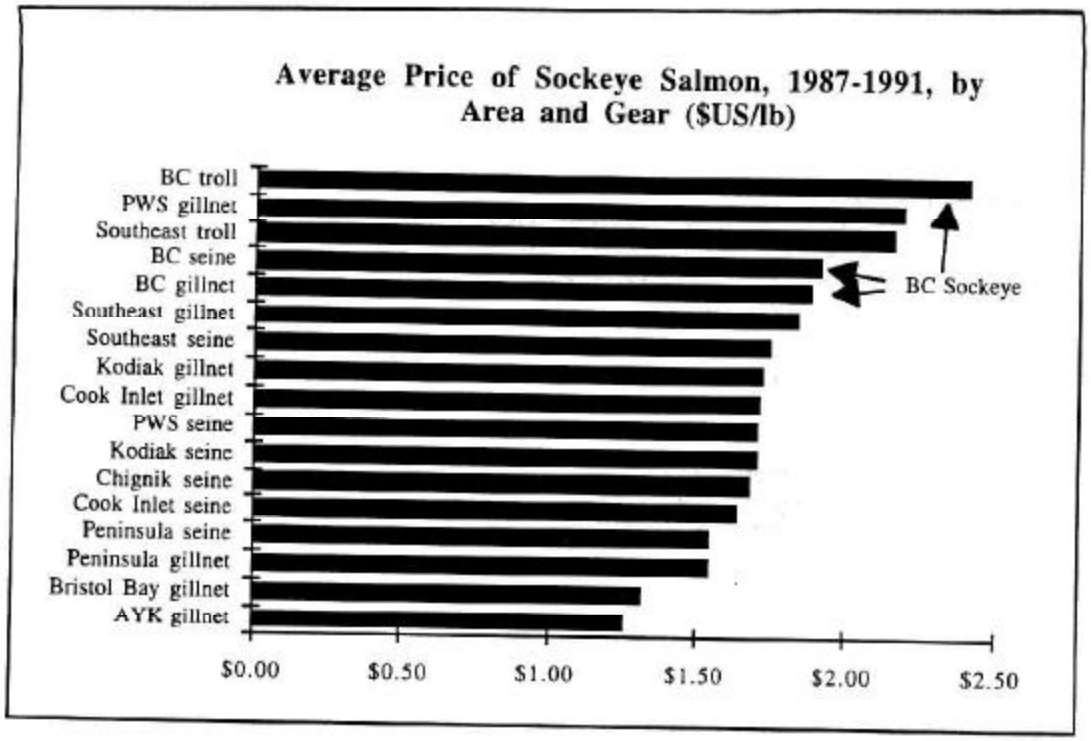
In summary, comparisons of average ex-vessel prices between Canada and Alaska suggests that Canadian sockeye salmon enjoys a consistent ex-vessel price advantage over Alaska sockeye salmon. On average, ex-vessel Canadian pink salmon prices appear to have been equal to or above Alaska prices in every year except 1988, and to have enjoyed a significant price advantage from 1990 through 1992.

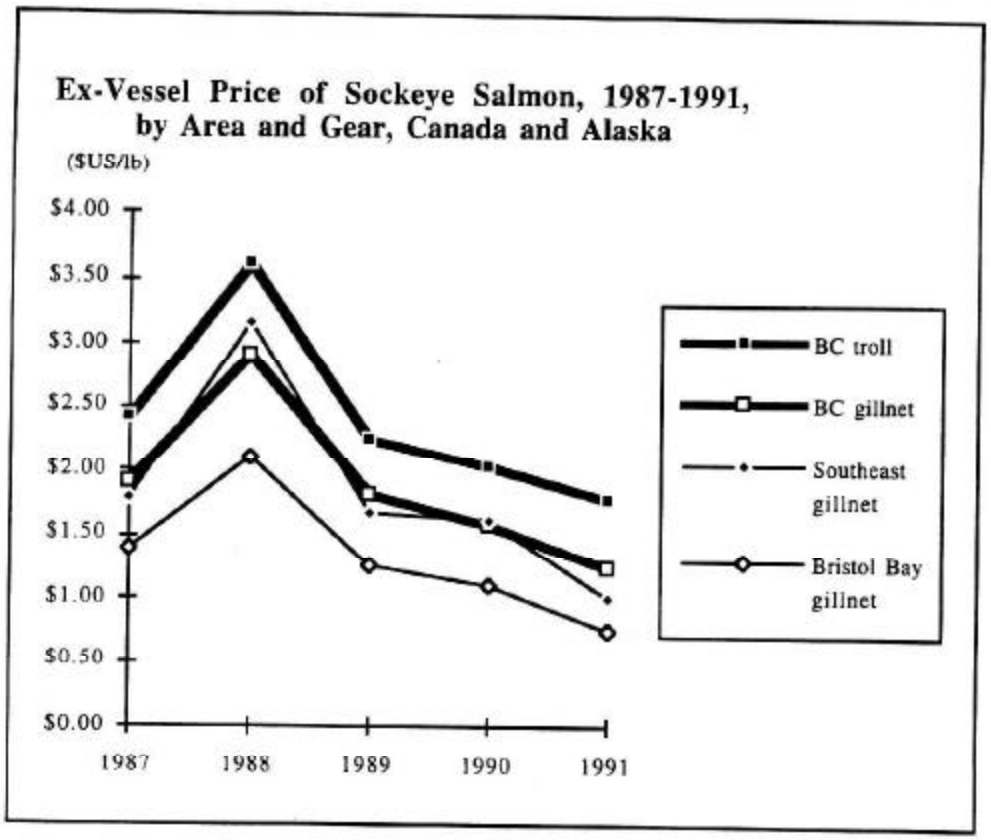
Comparison of Ex-Vessel Prices by Gear Group and Region

It is well known that Alaska ex-vessel salmon prices vary widely between different regions and gear types. For this reason, a comparison of Canadian ex-vessel prices with *average* Alaska ex-vessel prices, such as was presented above, may be misleading. To be meaningful, ex-vessel price comparisons should be for specific gear groups and regions.

Sockeye Salmon

The first graph on the following page compares *average ex-vessel prices over the period 1987-1991* for Canadian sockeye salmon by gear type with Alaska sockeye salmon by gear type and region. Over this period, BC troll salmon commanded by far the highest average price. The next highest average prices were commanded by Prince William Sound gillnet sockeye (primarily Copper River Reds) and Southeast troll sockeye.


Average Price of Sockeye Salmon, 1987-1991, by Area and Gear ($US/lb)
BC troll
PWS gillnet
Southeast troll
BC seine
BC gillnet
Southeast gillnet
Southeast seine
Kodiak gillnet
Cook Inlet gillnet
PWS seine
Kodiak seine
Chignik seine
Cook Inlet seine
Peninsula seine
Peninsula gillnet
Bristol Bay gillnet
AYK gillnet
BC Sockeye
$0.00
$0.50
$1.00
$1.50
$2.00
$2.50


Ex-Vessel Price of Sockeye Salmon, 1987-1991, by Area and Gear, Canada and Alaska
($US/lb)
$4.00
$3.50
$3.00
$2.50
$2.00
$1.50
$1.00
$0.50
$0.00
1987
1988
1989
1990
1991
BC troll
BC gillnet
Southeast gillnet
Bristol Bay gillnet

BC seine and gillnet sockeye commanded the next highest average prices, but these were only slightly higher than for Southeast Alaska seine and gillnet sockeye. Ex-vessel prices for Bristol Bay gillnet sockeye--by far the largest component of Alaska's sockeye harvest--averaged well below not only Canadian sockeye but also sockeye from almost all other Alaska areas.

The second graph on the previous page compares ex-vessel sockeye price trends during the period 1987-1991. To make the graph easier to read, only a few specific gear types and regions are shown. (Refer to Appendixes A and D for prices for other gear types and regions).

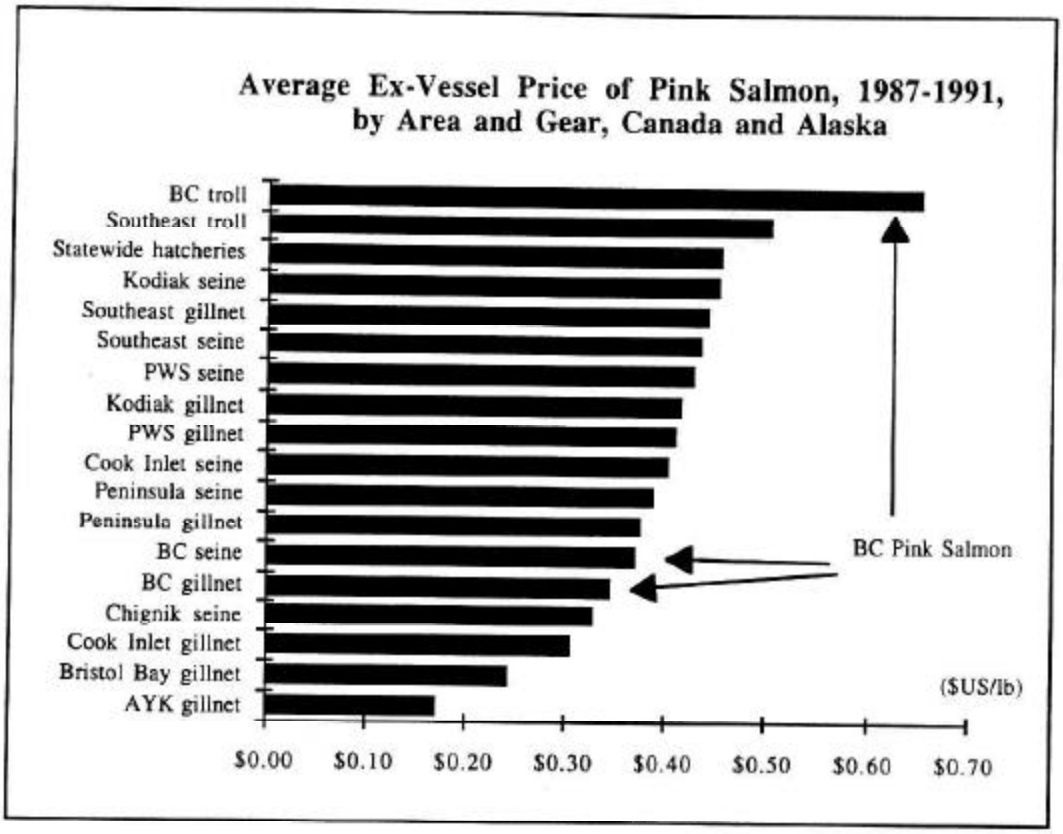
The graph shows that BC troll sockeye enjoyed a clear ex-vessel price advantage over BC gillnet sockeye. However, there was no clear or constant differential between the ex-vessel prices of BC gillnet sockeye and Southeast Alaska gillnet sockeye. The Southeast Alaska price was slightly higher in 1988, approximately the same in 1990, and slightly lower in 1989 and 1991. Both Canadian and Southeast gillnet sockeye enjoyed a clear ex-vessel price advantage over Bristol Bay sockeye.

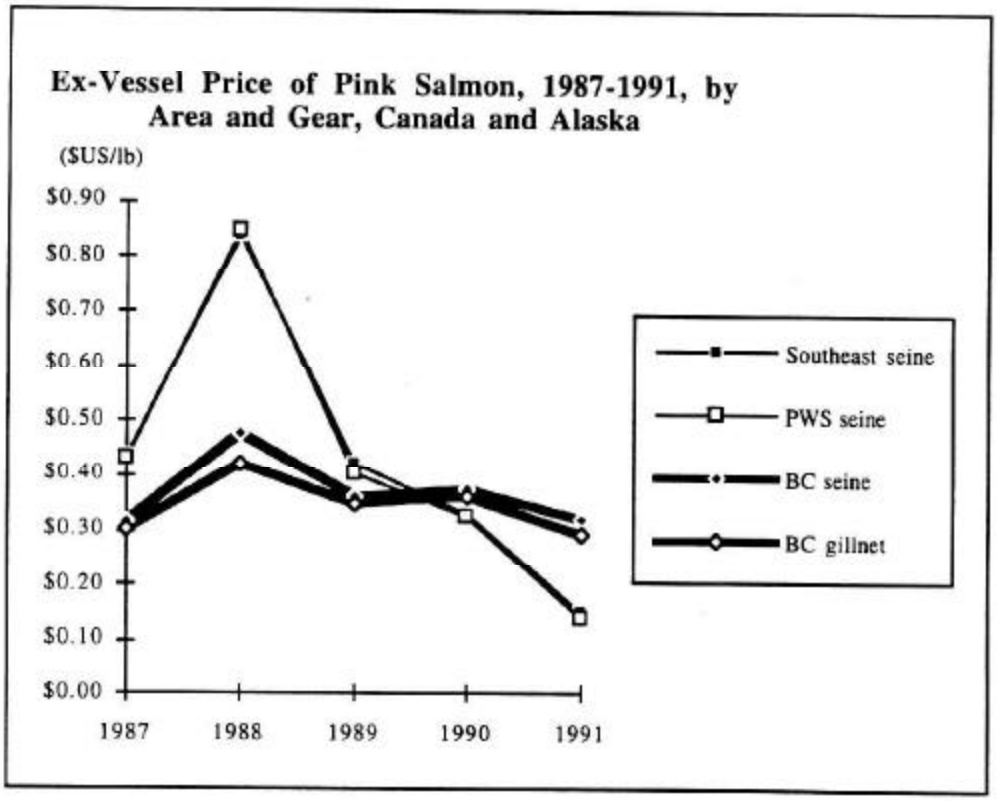
Pink Salmon

As shown in the first graph on the following page, regional differences in pink salmon prices in Alaska are much less significant than for sockeye salmon. Average purse seine prices in the largest pink-producing areas of Alaska (Southeast, Prince William Sound, and Kodiak) usually vary by only a few cents per pound at most. In contrast to sockeye salmon, *average 1987-91 Canadian ex-vessel prices for pink salmon were well below Alaska prices for most areas and gear groups*--with the notable exception of troll-caught Canadian salmon.

Ex-vessel price trends for sockeye salmon in Alaska and Canada showed similar trends over the period 1987-1991. The second graph on the following page shows that this was not the case for pink salmon.

As noted above, *average* ex-vessel pink salmon price levels were about the same in Alaska and Canada for the period 1987-1991. However, in Alaska ex-vessel prices rose sharply in 1988 and then fell sharply in 1989, 1990, and 1991. In Canada, ex-vessel prices rose only slightly in 1988, but the fall was much less severe between 1988 and 1991. As a result, in 1991 Canadian ex-vessel pink salmon prices were more than twice as high as prices in Prince William Sound and Southeast Alaska (32 cents/lb compared with about 13 cents/lb).


Average Ex-Vessel Price of Pink Salmon, 1987-1991, by Area and Gear, Canada and Alaska
BC troll
Southeast troll
Statewide hatcheries
Kodiak seine
Southeast gillnet
Southeast seine
PWS seine
Kodiak gillnet
PWS gillnet
Cook Inlet seine
Peninsula seine
Peninsula gillnet
BC seine
BC gillnet
Chignik seine
Cook Inlet gillnet
Bristol Bay gillnet
AYK gillnet
BC Pink Salmon
($US/lb)
$0.00
$0.10
$0.20
$0.30
$0.40
$0.50
$0.60
$0.70


Ex-Vessel Price of Pink Salmon, 1987-1991, by Area and Gear, Canada and Alaska
($US/lb)
$0.90
$0.80
$0.70
$0.60
$0.50
$0.40
$0.30
$0.20
$0.10
$0.00
1987
1988
1989
1990
1991
Southeast seine
PWS seine
BC seine
BC gillnet

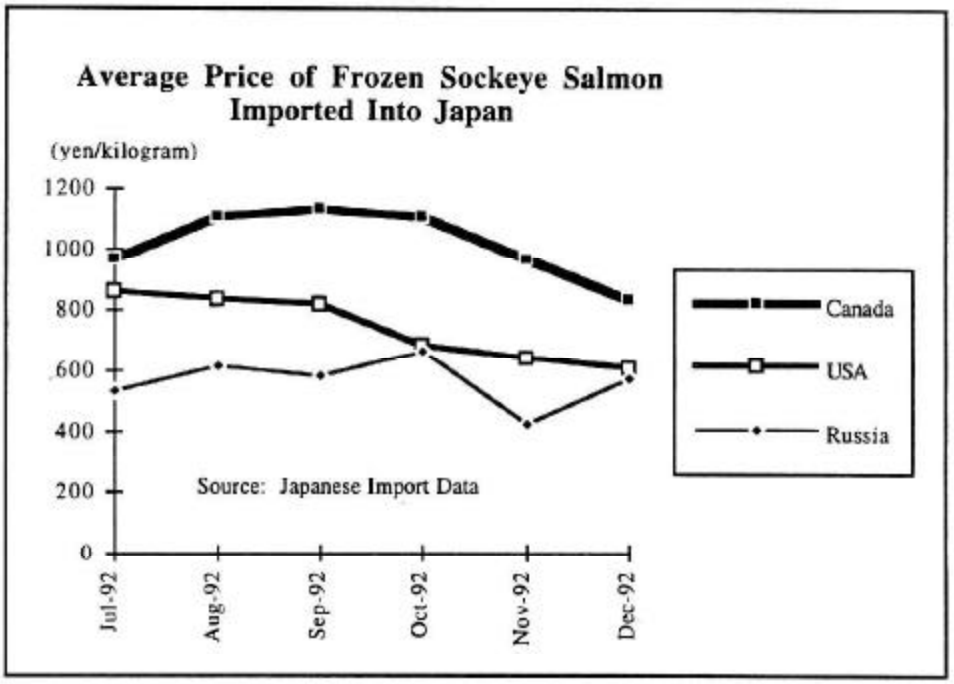
Sockeye Salmon

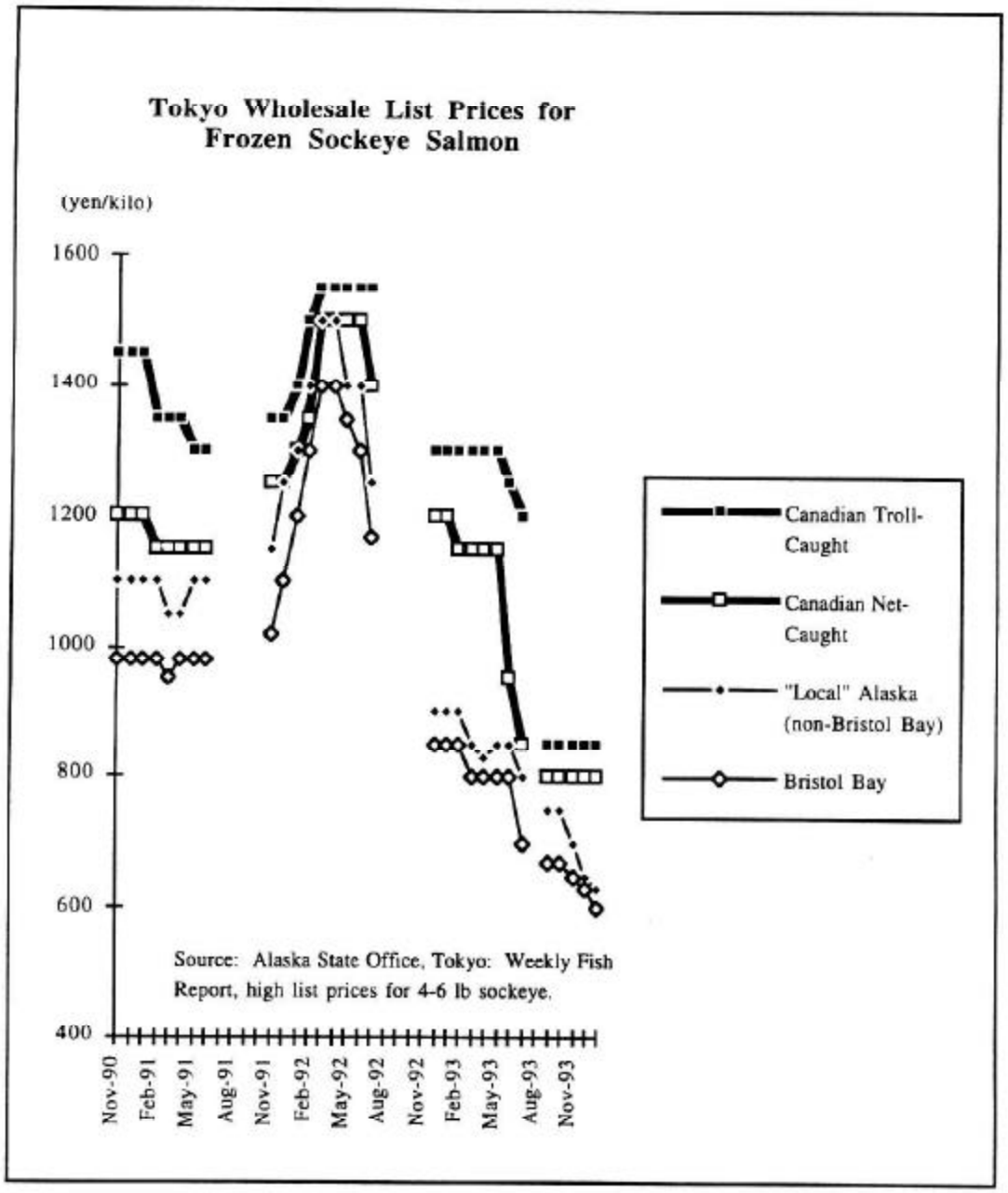
At the time this study was written, the most recent year for which wholesale price data for Canadian salmon were available was 1990. As shown in the table below, in 1990 Canadian canned sockeye commanded only a slightly higher average price ($4.22/lb) than southeast Alaska canned sockeye ($4.17/lb). Both of these prices were far higher than the average statewide price for canned Alaska sockeye ($3.38/lb). It is likely that this lower average statewide price reflects a much lower average price for canned Bristol Bay sockeye.

Sockeye Salmon Average Wholesale Prices, 1990

	Canada	Southeast	All Alaska
Canned	$4.22	$4.17	$3.38
Frozen	$3.14	$2.88	$2.45
Fresh	$2.58	$3.13	$2.66

Frozen Canadian sockeye commanded a significantly higher average wholesale price ($3.14/lb) than for southeast Alaska ($2.88/lb), which was in turn much higher than the average Alaska price ($2.45/lb). It should be remembered that the Canadian wholesale price includes the price paid for frozen troll-caught sockeye, which command a significantly higher price in the Japanese export market. As shown in the graphs below and on the following page, frozen Canadian sockeye salmon--almost all of which is exported to Japan--commanded a much higher average price in Japan than Alaska sockeye salmon.




Tokyo Wholesale List Prices for
Frozen Sockeye Salmon
(yen/kilo)
1600
1400
1200
1000
800
600
400
Nov-90
Feb-91
May-91
Aug-91
Nov-91
Feb-92
May-92
Aug-92
Nov-92
Feb-93
May-93
Aug-93
Nov-93
Canadian Troll-Caught
Canadian Net-Caught
"Local" Alaska (non-Bristol Bay)
Bristol Bay
Source: Alaska State Office, Tokyo: Weekly Fish Report, high list prices for 4-6 lb sockeye.

Pink Salmon

Average wholesale prices for Canadian canned pink salmon are significantly higher than for Alaska salmon. In 1990, Canadian canned pink salmon commanded an average wholesale price of $2.14/lb, compared with $1.71/lb for Southeast Alaska and $1.73/lb for all of Alaska.

As noted in the following chapter, the higher Canadian price reflects the fact that a much larger share of Canadian production is packed in smaller cans (quarter and half-pound cans as opposed to one-pound cans), which command higher average prices per pound.

Pink Salmon Average Wholesale Prices, 1990

	Canada	Southeast	All Alaska
Canned	$2.14	$1.71	$1.73
Frozen	$1.11	$0.94	$.79
Fresh	$1.10	$1.01	$.73

Average wholesale prices in 1990 for Canadian frozen pink salmon ($1.11/lb) were significantly higher than for southeast Alaska ($.94/lb), which were in turn higher than for all of Alaska ($.73/lb). It should be remembered that Canadian frozen salmon includes troll-caught pink salmon.

IV. EXPLAINING DIFFERENCES IN CANADIAN AND ALASKA SALMON PRICES

This chapter reviews factors which may help to explain price differences between Canadian and Alaska salmon. Many different factors, in every part of the salmon industry from harvesting to retailing, contribute to price differences. To fully understand the relative importance of all of these factors would require a comprehensive analysis of both the Canadian and Alaska salmon industries. Financial resources available for this study were limited and did not permit this kind of comprehensive analysis. Therefore the discussion in this chapter should only be considered an introduction to reasons for price differences between Canada and Alaska. Further research on many of the factors discussed in the chapter would be instructive.

A valuable source for this review was a 1991 study prepared for Fisheries and Oceans Canada and the B.C. Ministry of Agriculture Fisheries and Food by The ARA Consulting Group, a Vancouver-based consulting firm. This study, entitled *Strategic Outlook for the B.C. Fish Processing Sector,* undertook a detailed review of the competitive advantages and disadvantages of the B.C. fish processing industry relative to Alaska.

As the previous chapter showed, average ex-vessel prices differ widely between different regions of Alaska. This suggests that long-term differences in Canadian and *average* Alaska salmon prices result not only from differences between Canada and Alaska but also differences between different regions of Alaska.

While it is useful to examine reasons for price differences between Canada and Alaska, it could also be instructive to examine reasons for price differences between different regions of Alaska. This would represent a major research task in itself, and is beyond the scope of this study. Many of the differences described in this chapter between Canada and Alaska apply primarily to regions of Alaska which tend to command lower average prices, such as Bristol Bay.

Inherent Fish Quality

Canadian sockeye salmon have high oil content and other characteristics which contribute to high inherent quality. In Japanese rankings of the inherent quality of salmon from different areas, Canadian salmon consistently scores at or near the top. For example, an article in the Japanese magazine *Fish and Seafood Weekly* (October 25, 1990) stated: "Sockeye have different shades depending on the area they are caught. The ones with the best color in North America are found in Canada's British Columbia. They are highly valued as raw material for smoked and other types of products." This article ranked imported sockeye as follows:

A	British Columbia
B high	Ketchikan, Puget Sound
B middle	Sitka
B low	Port Moller, False Pass
C high	Cook Inlet
C low	Chignik
D	Bristol Bay

For Canadian sockeye as well as for some Alaska sockeye, such as Copper River and Southeast Alaska sockeye, higher natural quality of the fish contributes to higher prices than for Bristol Bay sockeye. To see how other factors besides inherent quality affect salmon prices, it is most appropriate to compare Canadian sockeye prices and the Canadian salmon industry with regions of Alaska with similarly high-quality sockeye.

Resource Management

A significant share of the B.C. salmon harvest is taken by net fisheries on salmon migration routes before the fish enter their spawning rivers. This contributes to higher average quality than in Alaska, where salmon fisheries tend to take place much closer to the mouths of rivers and streams where salmon spawn. A Southeast Alaska processor commented to the ARA Consulting Group on the advantage this gives to the Canadian industry:

> "Timing and management of fisheries is intelligently done in Canada which gives maximum recovery of the value of the resource."

The ARA Consulting Group also noted that, in comparison with Canada, "the harvest appears to be less orderly in Alaska (e.g., witness the frenzy of the Bristol Bay gillnet fishery)." (page 5-3)

Harvest Gear

Gear Types

In 1991, 17 percent of Canadian sockeye salmon and 18 percent of pink salmon was troll-caught, while only a tiny fraction of Alaska sockeye and pink salmon is troll-caught. The fact that almost one-fifth of the Canadian sockeye and pink salmon harvest is troll-caught results in higher average quality of the harvest--in particular that portion of the catch which is sold on the frozen market. Canadian troll-caught sockeye command a premium price on the Japanese market. In turn, troll-caught sockeye command higher average ex-vessel prices than seine and gillnet-caught salmon. This is a major factor in explaining the higher *average* ex-vessel prices for Canadian sockeye salmon.

Refrigeration

We were not able to obtain data on the extent of refrigeration by Canadian salmon fishing vessels. However, it appears that a much higher share of the total salmon harvest is chilled than in Alaska.

A Canadian salmon industry specialist estimated that almost all Canadian salmon fishing vessels chill their fish in some way. He estimated that more than 95% of seine vessels are refrigerated; about half the gillnet fleet has slush or brine refrigeration systems, while the rest use ice; and almost all trollers have ice or freezer systems. There are "very few dry boats." Typically boats with slush or brine systems get a higher ex-vessel price than boats with ice.[1]

In contrast, over half (57%) of the Alaska fishermen responding to the 1991 Alaska Salmon Quality Survey conducted for the Alaska Seafood Marketing Institute said that they do not chill their fish. Of those who do chill their fish, 53% use ice. Only 17% of the fishermen who did not chill the fish said that they planned to install a chilling system in the future.

Alaska Salmon Fishermen Survey Responses:
"Do you chill all your fish?"

	Yes, all	Yes, some	Don't chill
GILLNETTERS			
Southeast Alaska	94%	0%	6%
Prince William Sound	44%	22%	34%
Cook Inlet	10%	13%	77%
Alaska Peninsula	9%	0%	91%
Western Alaska	4%	4%	92%
Bristol Bay	5%	3%	92%
SEINERS			
Southeast Alaska	69%	19%	13%
Prince William Sound	67%	4%	30%
Kodiak	32%	29%	39%
TROLLERS			
Southeast Alaska	76%	25%	25%

Source: ASMI 1991 Alaska Salmon Survey, conducted by Dittman Research Corporation and GRAYSTAR Pacific Seafood, Ltd. Responses are shown only for fleets with at least ten survey responses.

Fleet Size and Costs

Although data are not readily available which would allow vessel size comparisons between Canada and Alaska, in general it appears that the Canadian salmon fishing fleet consists of larger vessels than in most Alaska salmon fisheries. Canadian seiners, for example, range in length from under 40 feet to well over 80 feet. The

[1]Personal communication, Gordon Gislason, ARA Associates, June 19, 1994.

reasons for this are related, in part, to differences in the evolution of the limited entry systems in Alaska and Canada. The Canadian limited entry system went through several phases in the 1970's, and at times the regulations provided the opportunity and/or incentive to replace smaller vessels with larger ones than was the case in Alaska. At one time there were restrictions on vessel tonnage; however, permits for several smaller vessels could be combined to obtain a permit for a larger vessel.

The ARA Consulting Group noted that there are half as many salmon fishing vessels in British Columbia as in Alaska, although total harvests are only one-third as great. At the same time, average capital investment per vessel in Canada is higher. They argued that this means that Canadian fishermen need higher prices to survive economically.

In essence, this argument is that Canadian processors pay fishermen higher prices because Canadian fishermen *need* higher prices in order to afford to continue fishing. Many Alaska fishermen might argue that Alaska prices have fallen below a level at which they can afford to fish. However, the cost of fishing will not support prices above the level at which fishermen actually reduce effort and harvests. Despite the financial hardship that low prices have caused Alaska fishermen, they have apparently not yet resulted in any significant decline in total salmon harvests which would force processors to pay more in order to obtain fish.

A detailed analysis of fishing costs and effort would be needed to show how important this factor may be in explaining differences between Canadian and Alaskan prices. In any case, it would not appear to be a useful strategy to increase costs in order to force prices higher.

Collective Bargaining

Many--but by no means all--Canadian salmon fishermen are members of the United Fishermen and Allied Workers' Union (UFAWU). The history of the UFAWU and its role in the Canadian salmon industry is complex. Therefore the following discussion of the UFAWU and the effects of collective bargaining on Canadian ex-vessel prices should be considered only an introduction.

Not all fishermen are members of the UFAWU. Union membership consists primarily of the crew of salmon seiners (but not boat owners) and gillnetters. The union also represents a minority of small boat owners. The union does not negotiate prices for troll-caught salmon.

In addition to fishermen, the UFAWU also represents many--but not all--fish processing workers and crew of fish tenders. Historically, this has contributed to the bargaining power of the union, as strikes could shut down not only fishing vessel deliveries but also processing facilities. The UFAWU publishes a newspaper, *The*

Fisherman, which forcefully advocates the union's point of view as to why higher prices for fishermen are justified.

Each year, the UFAWU negotiates minimum ex-vessel prices for seine and gillnet-caught salmon with the Fish Processors' Bargaining Association of B.C. (FPBA). The FPBA represents the five major British Columbia processing companies: British Columbia Packers Limited, The Canadian Fishing Company Limited, J.S. McMillan Fisheries Limited, Nelson Brothers Fisheries Limited, and Ocean Fisheries Limited. Sometimes multi-year price agreements are negotiated. Appendix B of this report provides a copy of the price agreement signed in December of 1992.

The Native Brotherhood represents the interests of Native fishermen and some Native shoreworkers. The FPBA also negotiates and signs smaller contracts on fish prices with the Native Brotherhood.

A specific provision in Canadian anti-trust law provides permission for groups of processors to negotiate about price with groups of fishermen.[2] However, fishermen are not covered under existing collective bargaining labor laws in the same way that unionized workers in other industries are. For example, Canadian labor law does not clearly define "rules of the game" with regard to price negotiations, strikes, lockouts, and arbitration. A provincial official has been charged with investigating this issue and perhaps introducing legislation to define practices in these areas.[3]

The minimum prices negotiated between the UFAWU and the FPBA apply only to purchases by the five processors from fishing vessels crewed by union members. Processors may purchase salmon from other vessels for lower prices. The union agreement also establishes crew shares to be paid to union crew members.

The processors are free to pay higher prices than the minimum if they choose to do so. Payments in excess of the minimum price may be of two types: adjustments to the minimum price and bonus payments to vessel owners. Adjustments to the minimum price must be shared with the crew, while bonus payments are not covered by the crew share agreement. Thus while the minimum price agreement serves to protect crew members, it does not necessarily serve to limit total payments by processors for fish or to establish the crew's share of total ex-vessel value.

What is the effect of collective bargaining on ex-vessel prices for Canadian salmon fishermen? We may rephrase this question in terms of how often the minimum price serves as the actual price.

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[2]According to a UFAWU official, this exemption was established in order to end the harassment and arrest of union leaders based on allegations that their activities violated anti-trust laws.

[3]Recent court decisions have held that fish harvesters, for the purpose of labor law, are subject to provincial rather than federal laws. In late 1992 a special advisor was appointed by the Ministry of Labour and Consumer Services to investigate the inclusion of fish harvesters within provincial collective bargaining legislation (*1992 British Columbia Seafood Industry Year in Review*, page 8).

As demonstrated in the graphs on the following two pages, between 1985 and 1993, the minimum prices established by collective bargaining represented the actual ex-vessel price for sockeye salmon only in 1993.[4] From 1985 to 1992, the actual price was higher than the minimum agreement due to adjustments to the minimum price and bonus payments. Thus, with the exception of 1993, collective bargaining appears to have had relatively little effect on ex-vessel sockeye salmon prices--although it did affect crew shares. Instead, market factors caused processors to offer fishermen higher prices than had been established by the union agreement.

The actual effect of the union agreement on sockeye ex-vessel prices during the 1993 season remains uncertain. The agreement specified a 1993 minimum price for sockeye of $1.33/lb (about $1.04/lb in U.S. dollars). At the start of the season, the processors exercised a provision in the agreement which permitted them to reopen discussions about the minimum price for sockeye salmon. This led to a dispute between the union and the processors about the interpretation of the reopener provision, and whether the processors were obligated to pay the minimum price. The dispute went to arbitration, and in the fall of 1993 the arbitrator ruled in favor of the companies' right to reopen negotiations over the price. With the season over, it was unclear what the union could do to get more money than the processors had paid during the season. While some fishermen did get $1.33/lb for high quality fish, prices paid for lower quality fish were in the $.90-$1.20/lb range.

Collective bargaining appears to have had a greater effect on ex-vessel prices for pink salmon. The actual price was the same as the minimum price in 1985, 1991 and 1993. Until 1988 the bargaining between the UFAWU and the FPBA resulted in one-year price agreements. In 1989, a 16-day strike by UFAWU members occurred at the height of the salmon season. Following the strike, apparently at the insistence of the FPBA, a three-year agreement was signed for the period 1989-1991. This agreement kept pink salmon prices far higher than Alaska prices when the pink salmon market crashed in 1991.[5]

Thus in the short-run, at least, collective bargaining brought Canadian pink salmon fishermen significantly higher prices than Alaska pink salmon fishermen received in 1991 and 1993.[6]

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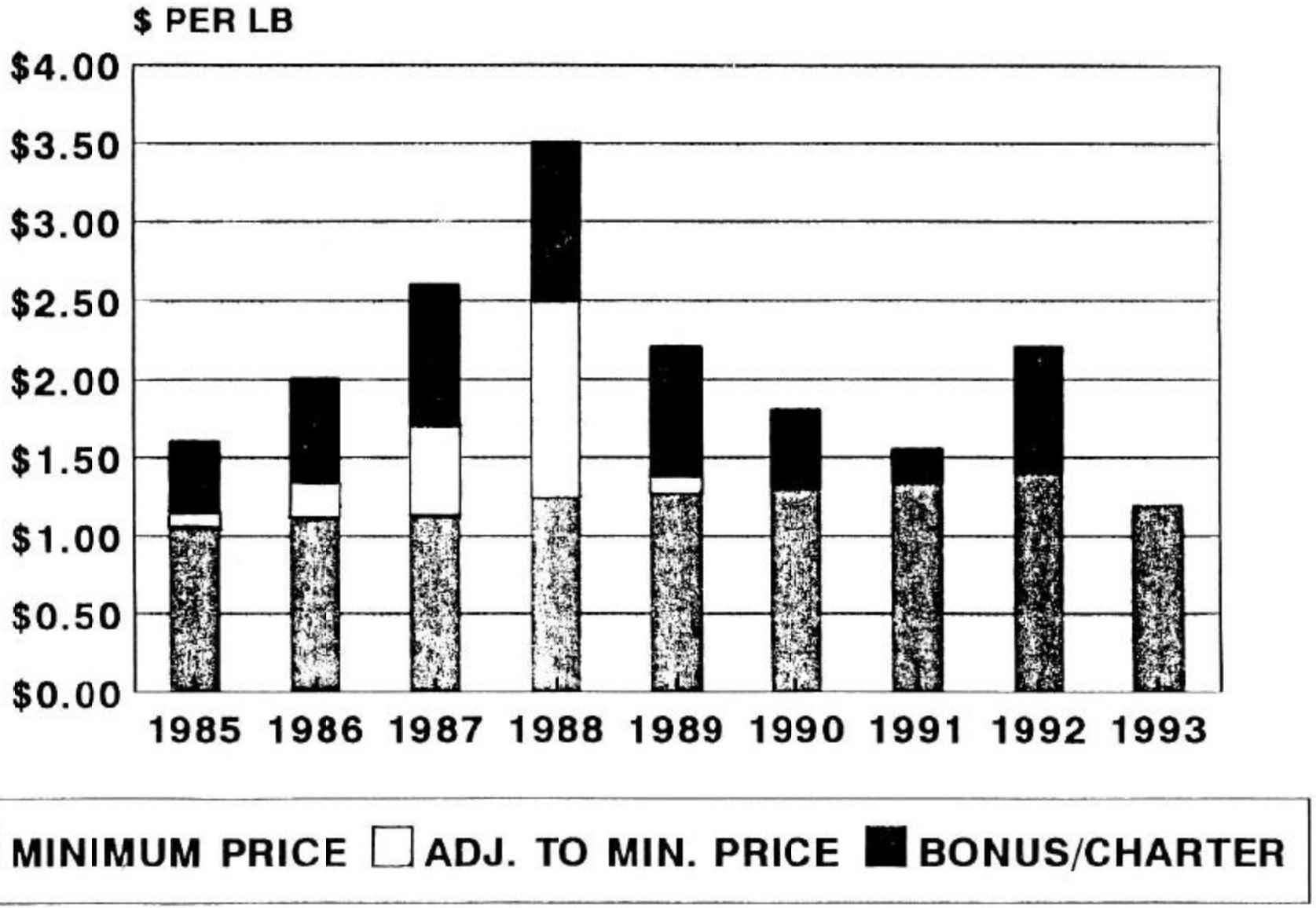
[4]The price graphs were provided by Rob Morley of the Fish Processors' Bargaining Association of British Columbia. Note that the prices are in Canadian dollars per pound, rather than U.S. dollars per pound.

[5]The ARA Consulting Group Inc., Strategic Outlook for the B.C. Fish Processing Sector, page 6-4.

[6]According to one observer, the processors may have offered a higher price for pink salmon in return for a lower price for sockeye.

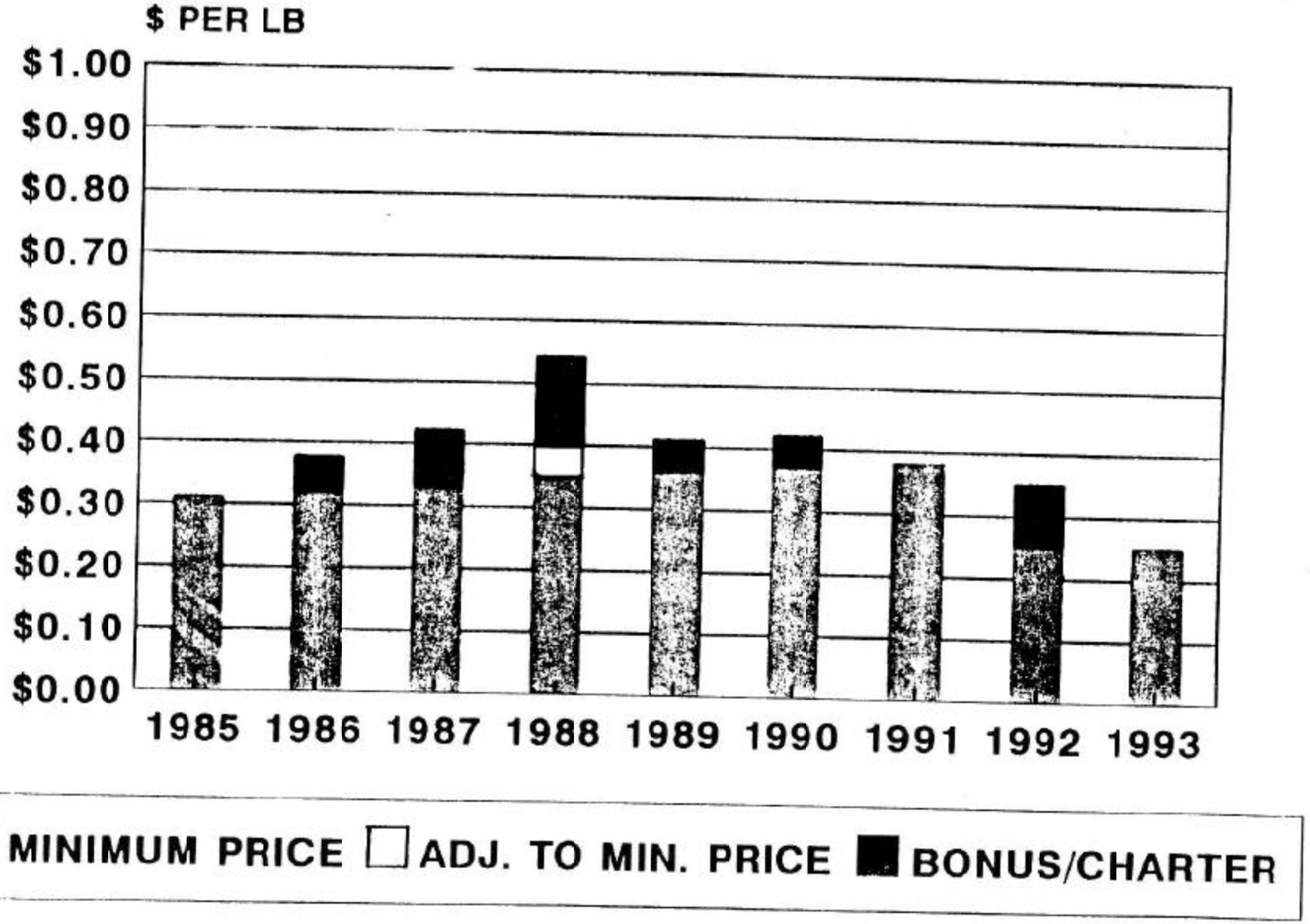
SOCKEYE SALMON PRICES
1985 - 1993

Note that the prices are in Canadian dollars per pound, rather than U.S. dollars per pound.



PINK SALMON PRICES
1985 - 1993

Note that the prices are in Canadian dollars per pound, rather than U.S. dollars per pound.



The ARA Consulting Group argued that Canadian ex-vessel prices are determined primarily by competition, although collective bargaining plays a role:

> "In actual practice the major processors have limited influence on the price paid fishermen. The price paid by processors is determined by competitive bidding on the grounds, which in turn is determined by market conditions. Prices paid by the majors are influenced by the prices paid by the medium and small companies. If the prices paid by the majors are not competitive, after incorporating an allowance for services provided, they will lose fishermen and raw material supply. In this sense, raw material prices are determined by buyers at the margin.
>
> Processors have greater control over prices paid fishermen for pink salmon than over prices for other species. The vast majority of the pink catch is canned. There is not the price competition for canning quality fish that exists for fish destined for the fresh/frozen market.
>
> In a falling market, downward flexibility in pricing by the majors is limited by the minimum price agreement for net-caught fish. The pricing of troll-caught salmon purchases, including those of the majors, adjusts quickly to market changes." (pages 2-11, 2-12)

In summary, then, collective bargaining has in some years contributed to higher ex-vessel salmon prices in Canada. However, the long-run effect of collective bargaining on average prices over time is uncertain.

Canned Salmon Markets

As was noted in Chapter II, a significantly larger share of sockeye salmon is canned in Canada than in the United States. There are also significant differences in markets for Canadian and Alaskan canned salmon. The United States is the largest market for Alaska canned salmon, followed by exports to the United Kingdom. In contrast, only a very small share of Canadian canned salmon is exported to the United States. About half is sold in Canada, and a substantial share is exported to the United Kingdom.

Canadian processors receive higher average prices per pound for canned pink salmon and sockeye salmon than do United States processors. A number of different factors contribute to these higher prices.

One factor which contributes to a higher average price per pound is that more of the B.C. canned pack goes into smaller cans, which command a higher average price per pound. A Canadian salmon industry specialist estimated that 1/4 lb cans accounted for more than 20% of the canned pack in British Columbia, and 1/2 lb cans accounted for more than 70% of the canned pack. In contrast, 1/4 lb cans accounted

for less than 1% of the U.S. canned pack in 1993, and 1/2 lb cans accounted for less than half of the U.S. canned red pack and less than one-sixth of the U.S. canned pink pack.

Talls (14 3/4 oz. cans) constitute less than 5% of total canned production in British Columbia. There is only one tall canning line in the entire province, out of about 25 canning lines. In contrast, talls accounted for about half of the U.S. canned red pack and more than three-quarters of the U.S. canned pink pack in 1993.[7]

Share of 1993 U.S. Canned Salmon Pack

	Red	Pink
48-Talls	54%	84%
48-Halves	44%	14%
48-quarters	1%	0.2%
12-Four Pound	0%	1%

Percentages are share of total canned weight.
Source: National Food Processors Association, 1993 Canned Salmon Pack, Final Report.

The B.C. salmon industry has cultivated the Canadian domestic canned market through branding of product. Major canners label their product and sell directly to grocery store chains. Two of the largest processors--B.C. Packers and the Canadian Fishing Company--are controlled by companies with a strong presence in the Canadian retail grocery market. There is strong brand identification with retailers and consumers. In contrast, in the United States larger food companies are not integrated with canned salmon processors and do little to promote salmon generically. The Canadian canned salmon market is much more developed than the United States market.

The ARA Consulting Group summarized these differences as follows:

> "The [Canadian] industry has greater control over the prices in the domestic market, especially for canned salmon. There is strong brand identification with retailers and consumers, and canned salmon imports are minimal. Domestic canned salmon prices are generally higher than export prices (costs are also higher due to labeling, warehousing and greater inventory costs). B.C. produces much more 1/4 lb tins of salmon than does Alaska, its chief canned salmon competitor. This gives the B.C. industry some market power when the demand for 1/4 lb tins is strong.
>
> In the U.S., the canned tuna market is considered more developed than the canned salmon market. In Canada the opposite is considered true.

[7]Canadian pack estimates are based on a personal communication with Gordon Gislason of ARA Associates, June 19, 1994.

(Canadian annual per capita consumption of canned salmon is estimated at .6 kg compared with only .14 kg in the United States.)

There is a difference in market focus between the two countries. In Canada, canned salmon is mainly directed at the retail market. In the U.S., canned salmon is aimed more at institutional sales.

The United States food industry is large, complex and efficient. Typically, market entry costs for the retail sector are very high. Canned seafood markets are dominated by large food companies with canned brands such as Bumble Bee and Carnation. These food companies typically are not integrated with fish processing companies. As a result, there is little incentive for the larger food companies with lines of branded products to promote salmon generically." (pages 2-10, 2-11, 4-9)

Product Quality

The B.C. processing industry has tried to differentiate its product in world markets through quality. Inherent fish quality, resource management, harvesting and processing practices, and government policies have all contributed towards Canadian salmon's reputation for high quality. For example, the ARA Consulting Group noted a wide variety of factors contributing to the reputation of Canadian sockeye in the Japanese market:

"Troll caught frozen-at-sea (F.A.S.) Canadian sockeye receives a premium price in the Japanese market. This is due largely to high quality of the fish, the fat content, flesh colour, superior handling and in-plant control, and Canadian inspection standards."

Below we discuss how several different factors contribute to the Canadian reputation for quality.

Industry Emphasis on Quality

The Canadian salmon industry has specifically focused on quality to position itself in world markets. According to The ARA Consulting Group:

"The (British Columbia processing) industry has tried to differentiate its product in world markets mainly through quality. Better handling practices, in-plant control, workmanship and stricter federal government inspection standards have helped B.C. processors achieve a world-wide quality reputation...In the past, this earned it a small price premium over competitors such as Alaska, but this premium shrunk during the last two years with the world surplus of salmon. B.C. frozen sockeye salmon still earns a price premium in Japan...

> As a way of differentiating its products, the industry has attempted to do as much value-added processing as possible in Canada, to produce a high quality product, to cultivate the domestic canned market through branding of product, and to can a substantial quantity of 1/4 lb tins of salmon. This is a different strategy than its main competitor Alaska follows.
>
> These initiatives have reflected in large part an attempt at niche marketing to gain competitive advantage. However, BC processors have a pride in the quality and advanced processing of their product. In a real sense, several processors want to be known in the world marketplace as producing quality products, regardless of market signals." (pages 2-9, 2-10, 3-3, 3-4).

The ARA Consulting Group reported comments by Canadian processors reflecting this emphasis on product quality:

> "BC processors are head and shoulders above the US in producing a quality product." [medium size processor]
>
> "We have less production than the US so we should attempt to aim at the high end of the market." [medium size processor]
>
> "In high value, high quality products BC can compete; in lower value, lower quality products, the US has some advantages." [medium size processor]
>
> "During an average production year, the BC industry has an edge in product quality which reflects in better sales prices. This however diminishes in years of high production (e.g., 1989 and 1990)" [medium size processor]
>
> "The better the quality, the better the margin." [major processor]
>
> "BC does a way better job than Alaska at canning salmon." [medium size processor]
>
> "There has never been a botulism problem with Canadian canned salmon." [major processor]
>
> "Our sockeye is the best. It has a higher fat content and a brighter flesh colour than Bristol Bay reds." [industry observer]
>
> "Japan likes the 'Product of Canada' label." [medium size processor]

One processor suggested, however, that the price advantage conveyed by Canadian quality may be declining:

> "We are very proud of the quality of our canned salmon, but now we're getting the same price as Bristol Bay canned sockeye which isn't even washed. Why should we continue to produce a quality product?" [major processor]

Seafood Inspection

Canada's mandatory seafood inspection program is similar to the HACCP quality standards planned for the U.S. industry. Inspection standards are high. Canadian processing plants are inspected as to compliance with construction, equipment, operations, process control and sanitary criteria.

The ARA Consulting Group reported a perception that Canadian inspection standards contribute to the Canadian reputation for quality:

> "Canada has a mandatory inspection program governing the processing of fish products destined for export markets. The standards are high, and relate to health and safety as well as fish quality concerns. Processing plants are inspected as to compliance with construction, equipment, operations, process control and sanitary criteria...The inspection standards increase costs to Canadian industry. They also benefit in terms of buyer confidence and potentially higher prices." (page 5-1)

Companies may use a "Canada Inspected" designation and a logo with a circle and Maple Leaf if they receive a "Good" or "Excellent" rating after inspection. Companies receiving a "Satisfactory" rating or below may not use the designation.

An article by Douglas Schneider in the April 1992 edition of *Alaska Business Monthly* described recent changes in Canada's inspection program as follows:

> "Between 1986 and 1990, seafood inspectors from Canada's Department of Fisheries and Oceans (DFO) made routine sanitary inspections of fishing vessels. Inspectors checked for such things as cleanliness of the fish holds, fuel leaks, adequate insulation of holds and even the kind of paint used on board to guard against contamination of the catch. Depending on what they found, DFO inspectors either refused permits or gave permits for one, two or four years. Vessels with the fewest problems received the multi-year permits.
>
> On shore, DFO inspectors roamed processing plants, checking salmon quality at key stages, and monitored sanitary conditions. Inspectors oversaw the delivery of raw product to the plant, production

conditions, quality of finished products and worker/workplace hygiene.

In 1990, DFO officials and the seafood industry developed new, more stringent, guidelines under its Quality Management Program for fish processors. DFO inspectors would continue to inspect and license fishing vessels, but seafood processing plants with good reputations for quality would conduct their own inspections. The program is widely supported by industry, which wants less government control, and by government, which wants to concentrate enforcement efforts on remaining substandard plants.

The Canadian Quality Management Program standards have been voluntary since they came out in April 1990. They were expected to be made mandatory by the Canadian Parliament in February 1992.

"The difference between our standards and Alaska's is that ours will be mandatory," says [DFO's facilities inspection programs officer]. In return for industry cooperation, the best processing plants will be allowed to promote their products as having a federal inspection seal. Canada's commitment to quality has meant better prices for its salmon, according to DFO officials.

The new standards also give Canadian salmon a competitive edge in European Economic Community markets. New EEC standards soon will require that imports of seafood be inspected by the government of the nation of origin.

Presently, processing operations in Alaska must register with the Alaska Department of Environmental Conservation, which conducts visual inspections of seafood and processing operations. Non-compliance typically means seafood is detained, but processors rarely are shut down. . . Currently there is no state inspection or licensing program for fishing vessels."

Resources available for this study did not permit a detailed comparison of Canadian and Alaskan seafood inspection practices, and the extent to which these result in differences in actual or perceived product quality and prices. Such a comparison would be a useful area for further research and consideration in any modifications to Alaska inspection practices.

Export Restrictions

In the late 1970's the Canadian government imposed restrictions on the export of frozen sockeye and pink salmon to Grade A quality salmon. Quality standards for frozen sockeye and pink salmon were established by the Canadian government,

under which frozen fish were graded as Grade A, Standard, or Utility (see discussion below under "Grading Standards"). In 1989, the export restrictions were ended as a result of trade agreements under the GATT.

The primary purpose of the export restrictions on frozen sockeye and pink salmon was not to improve the quality and reputation of Canadian salmon in export markets--although this was an effect. Instead, the purpose was to protect the BC canning industry from losing its raw material to Japanese buyers who were bidding up the price of salmon. Both the established processors as well as the UFAWU, which represented processing workers, supported the restrictions for this reason. They achieved political support for the restrictions by arguing that "fly-by-night" processing operations were damaging Canada's reputation for quality.

The export restrictions contributed to a high quality reputation for Canadian sockeye and pink salmon in the Japanese market, and a corresponding significant price premium over Alaska salmon. Canada continues to enjoy this price premium today, although the relative difference in quality may have declined since the lifting of the export restrictions.

In 1982, the Commission on Pacific Fisheries Policy, chaired by Peter Pearse, issued a highly publicized and much-debated report on the status of Canada's Pacific Fisheries. This report concluded the following about the salmon export standards:

> "My major reservation about the Department's approach to quality control in exported fish products is its attempt to use its regulations to restrict export opportunities in the interest of promoting local processing; it apparently restricts exports of frozen sockeye and pink salmon to protect the canning industry...
>
> The Department takes satisfaction from the fact that Japanese buyers pay more for the frozen salmon it allows to be exported than they pay for the corresponding U.S. product. I fear that this may be the result of preventing foreigners from buying anything but the best quality products. But exporting only the best product should not become a policy objective. The purpose should be to assure buyers of the quality of the products they bargain for, but not to prevent them from buying the full range of products produced...
>
> *[Recommendation 9]: the Department should continue to develop its program of quality certification for exported fish products to ensure that product standards are met; it should refrain from using quality controls as a means of restricting export trade."*

An important issue is whether the export restrictions actually led to the achievement of higher quality in salmon harvesting and processing. The ARA Consulting Group commented that they "tended to improve handling of freezer

grade fish in the plant" (page 5-1). However, it makes no mention of other quality effects.

Regardless of whether export restrictions resulted in higher average quality, the Canadian experience illustrates a fundamental principle of marketing: products with a reputation for quality relative to competing suppliers command higher prices in export markets.

Grading Standards

With the ending of the export restrictions on frozen pink and sockeye salmon, there are no longer any government-imposed grading standards for the Canadian salmon industry. As in Alaska, grading standards are set by private operators.

The Pearse Commission recommended that the government promote the establishment of standardized grading practices administered by industry (*Pearse*, page 167):

> "The Department and the fishing industry recognize the extreme sensitivity of fish markets to the product's reputation for high health standards... Thus, the Department's role in ensuring that standards of quality and health are consistently met is important to the whole fishing industry. Moreover, many countries require that imported fish products be certified by a recognized authority as having met specified processing and quality standards. The Department meets this requirement by certifying exports (which, incidentally, enables exporters and importers to proceed with financing arrangements).
>
> The Department's performance in protecting product quality appears to have been very good, and its product inspection and certification arrangements are widely respected... The Department's certification of quality undoubtedly helps to ensure ... continuing access to valuable foreign markets.
>
> My investigations suggest that the commercial fishing industry would benefit from the Department's efforts in maintaining quality standards being extended in a couple of respects. The most important relates to the grading of fish landed, especially salmon. At present, salmon are roughly graded in some cases by size and colour. A significant distinction is made between troll-caught and net-caught fish, but this distinction is becoming obsolete with changes in technology and fish handling; fish caught in nets and handled carefully are now often sold as troll fish (which bring a higher price). As a result, the statistics on landings by sectors of the fleet are misleading, and grade distinctions are inconsistent.

> The problem is complicated by the present pricing arrangements for net-caught salmon, in which pre-season bargained prices provide for a uniform price for each salmon species. This provides no reward for fishermen and vessel owners who strive for higher quality standards.
>
> In other primary food-producing industries, such as wheat and livestock, governments play a valuable role in supporting quality grading that serves as a basis for pricing. A similar system for grading raw fish, in which variations in fish quality are recognized, would provide incentives for achieving higher standards. This would benefit the fishing industry and also serve the broader public interest by encouraging the most beneficial use of resources. Accordingly, I recommend--
>
> *[Recommendation 7] The Department, in close consultation with the fishing industry, should explore the feasibility of establishing quality grades for fish landed, with special attention to salmon.*
>
> I emphasize the importance of close cooperation with the industry in this matter. I do not intend that the government become heavily involved in dockside grading or interfere with private marketing processes; it should promote the establishment of grades and leave the industry itself to administer them to the maximum extent possible."

To date Pearse's recommendation has apparently not resulted in government-imposed grading standards or the widespread adoption of uniform grading standards by the Canadian salmon industry.

The table on the following page shows the now voluntary Canadian government criteria for "Grade A", "Standard Grade" and "Utility Grade" frozen salmon which were formerly used as the basis for export restrictions on frozen pink and sockeye salmon. The table on the next page compares the standards for Canadian "Grade A" with the Alaska Seafood Marketing Institute's voluntary "Premium" grading standard. Although the Canadian standard is perhaps slightly stricter, the two standards are generally similar.

As with inspection standards, resources available for this study did not permit a detailed comparison of Canadian and Alaskan grading practices, and whether or not these result in differences in actual or perceived product quality and prices. This would also be a useful area for further research. Any consideration of the development of uniform grading standards for Alaska, whether government or industry sponsored, should include a review of Canadian grading practices.

CANADIAN GOVERNMENT QUALITY GRADE CRITERIA FOR FROZEN GUTTED PACIFIC SALMON

CHARACTERISTICS	GRADE A	STANDARD GRADE	UTILITY GRADE
A. EXTERNAL SURFACE			
1. COLOUR	Typical of sea-run species; good sheen; good distinction between dark dorsal & light ventral surfaces.	Some dulling of colour & sheen; line between dark dorsal & light ventral surfaces is less distinct.	May be very dull; little distinction between dorsal & ventral colours.
2. CHERRY BELLY	None except for very faint reddening near anal & pectoral fins.	Moderate along lower ventral surface only.	May be extreme.
3. NET MARKS	No indentation or softening of flesh; no skin perforation.	May indent & soften flesh.	May indent & soften flesh; May perforate skin.
4. CUTS, SCARS & PUNCTURES	No cuts or punctures permitted; (well-healed scar up to 6 sq. cm. (1 sq. inch) permitted.	Small clean cuts & punctures permitted; 1 well-healed scar which may exceed 6 sq. cm. permitted.	Clean cuts & punctures permitted; scars permitted.
5. SLIME	Clear	Dull; cloudy	Thick, dull, copious.
B. SEXUAL MATURITY	No red, boewn or green tints; distinct barring on chums; slight hooking of nose; slight hump on pinks; belly wall thickness consistent with the species.	Some colour development; prominent barring; nose hooked; distinct hump; belly walls may be thin.	Red, brown, black, green & yellow colours may be present; belly walls may be very thin.
C. BELLY CAVITY			
1. FLESH COLOUR	Typical of sea-run species; no bleaching.	Faint bleaching allowed.	Noticeable loss of colour.
2. BELLY BURN	None; very slight blush; lining intact.	Up to moderate belly burn; up to 25% of lining may be broken.	Moderate to extreme; lining may be completely disintegrated.
3. CUTS, TEARS & BRUISES	Clean cuts & tears up to 2.5 cm (1 inch) total length; no bruises or protruding ribs.	Clear cuts & tears up to 5 cm (2 inch) total length; up to 10% of ribs protruding; no more than 1 bruise up to 6 sq. cm. (1 sq. inch).	Any number of cuts, tears & protruding ribs; bruises permitted.
4. CLEANING	Thorough; no blood, kidney, heart, gills or esophagus; reasonably free from residual blood.	Thorough; no blood, kidney, heart, gills or esophagus; reasonably free from residual blood.	Traces of blood may be permitted.
D. FLESH QUALITY			
1. TEXTURE	Resilient; no flesh separation observed in body cavity.	Impression may remain when flesh depressed. No flesh separation observed in body cavity.	May be soft & limp; flesh separation may be obvious.
2. ODOUR	Fresh, no abnormal odour.	No sour or abnormal odours.	May have slight off odour but not putrid; some late odour.
E. FROZEN CHARACTERISTICS TO MEET GOOD COMMERCIAL PRACTICE			
1. GLAZE/PROTECTIVE MEMBRANE	Complete.	Complete.	Loss shall not exceed 25%.
2. DEHYDRATION OR FREEZER BURN	None on final product; must recondition prior to packing, if present.		May recondition if freezer burn is present.
3. BODY DISTORTION	Minimal in individually frozen fish	Moderate distortion in individually frozen fish.	Flesh may be distorted
4. OIL MIGRATION (RUST)	None on final product.	Must recondition prior to packing if slight rust is present.	Rust & slight rancid odour may be present.

Note: These criteria formed the basis for Canadian export restrictions which ended in the late 1980's. Currently, most companies set their own grading standards.

COMPARISON OF QUALITY GRADE CRITERIA FOR "CANADIAN GRADE A" AND "ASMI PREMIUM"

CHARACTERISTICS	CANADIAN GRADE A	ASMI PREMIUM
EXTERNAL SURFACE		
COLOUR	Typical of sea-run species; good sheen; good distinction between dark dorsal & light ventral surfaces.	Skin shiny and wrinkles should not remain when fish is bent slightly. Skin color should be characteristic of fresh fish that is typical of the species, stage of sexual maturity, district from which it was taken, and time of the year it was caught.
CHERRY BELLY	None except for very faint reddening near anal & pectoral fins.	
NET MARKS	No indentation or softening of flesh; no skin perforation	Methods of catch may mark the skin. Scale adherence should be reasonably uniform. Some scale loss due to method of catch and handling procedures is to be expected.
CUTS, SCARS & PUNCTURES	No cuts or punctures permitted; (well-healed scar up to 6 sq. cm. (1 sq. inch) permitted.	No readily detectable unhealed wounds which have caused flesh damage.
SLIME	Clear	
OTHER		Eyes should be normal in appearance. Gills should be normal in appearance.
SEXUAL MATURITY	No red, brown or green tints; distinct barring on chums; slight hooking of nose; slight hump on pinks; belly wall thickness consistent with the species.	Physical shape should be characteristic of the species at its stage of sexual maturity.
BELLY CAVITY		
FLESH COLOUR	Typical of sea-run species; no bleaching.	Flesh color should be characteristic of a fresh fish that is typical of the species, district from which it was taken and time of year it was caught.
BELLY BURN	None; very slight blush; lining intact.	No belly burned flesh.
CUTS, TEARS & BRUISES	Clean cuts & tears up to 2.5 cm (1 inch) total length; no bruises or protruding ribs.	No readily detectable bruises.
CLEANING	Thorough; no blood, kidney, heart, gills or esophagus; reasonably free from residual blood	No defects from poor workmanship such as gills left attached to the nape; viscera heart or free blood remaining in the belly cavity; kidney remaining; severe knife cuts; or membrane scraped away from flesh in body cavity to a degree that indicates soft flesh.
OTHER		Viscera and eggs should be of acceptable color, intact and smell sea-fresh (practially odorless). Interior walls of the belly cavity may have minimal appearance of tissue breakdown due to enzymatic action or careless handling.
FLESH QUALITY		
TEXTURE	Resilient; no flesh separation observed in body cavity.	Flesh should be resilient when subjected to finger pressure. No softness of the flesh and/or three or more rib bones totally pulled away from the flesh.
ODOUR	Fresh, no abnormal odour.	No noncharacteristic odours.
FROZEN CHARACTERISTICS		
GLAZE/PROTECTIVE MEMBRANE	Complete.	
DEHYDRATION OR FREEZER BURN	None on final product; must recondition prior to packing, if present.	
BODY DISTORTION	Minimal in individually frozen fish.	
OIL MIGRATION (RUST)	None on final product.	

Note: Canadian criteria formed the basis for Canadian export restrictions which ended in the late 1980's. Grading standards are voluntary in both Canada and Alaska; most companies set their own grading standards.

Value Added Production

There is considerable interest in Alaska in the potential for increasing the value of Alaska salmon through increased value-added production. Is Canada ahead of Alaska in value-added production? The answer to this question was not entirely clear given the limited evidence we were able to gather for this study.

Tables D24 through D33 in the Appendix D provide fairly detailed information on Canadian production of different products for each salmon species. For all species, "frozen dressed" salmon accounts for the overwhelming share of non-canned product weight, as opposed to products such as "salted," "smoked," "portion pack," and "minced." This suggests that value-added salmon production has not yet progressed very far as a share of Canadian production. Comparable data for Alaska production are not available.

According to the B.C. Ministry of Agriculture, Fisheries and Food's *1992 British Columbia Seafood Industry Year in Review*, "the B.C. fish processing industry is successfully adapting to competition and shifts in consumer preference to fresh/frozen products. . . With this new focus on . . . value-added product forms, new processing facilities are being built in coastal communities further diversifying the nature of the industry."

An article in the November 1993 UFAWU newspaper *The Fisherman* offers a different perspective on the progress of value added production in Canada:

> "The much bigger obstacles to marketing, however, are those put up by B.C. fishing companies which have been backward in developing new value-added products and stubbornly reluctant to use their own positions in the retail industry to promote salmon in the domestic market . . . According to *Seafood Business*, 17 different Norwegian companies have introduced value-added product lines aimed at the U.S. food service and retail industries. Alaskan salmon processors, which already prepare frozen portion packs, salmon hams and other items--most of them unfamiliar to consumers in this province--are poised to consider new product lines, particularly from pink salmon, backed by a recent study from the Alaska Department of Commerce. But B.C. companies remain stuck on selling fresh-frozen salmon in the round and canned product. The B.C. Salmon Marketing Council's executive director Chris Lok acknowledges that the lack of value-added products from B.C. processors puts limits on what the council can promote. He contends that council representatives can help develop value-added by focusing attention on new products in the market, although that process has yet to show any results."

Although *The Fisherman* can be expected to complain about the B.C. fish processing industry, the tone of this article suggests that it is unlikely that B.C. is very far ahead of Alaska in value-added activities.

Adding value to production results in higher average wholesale prices but also higher production costs. Given the apparently relatively small extent of value-added production, and the accompanying higher costs, it is unlikely that value-added production is a major contributing factor to differences between Canadian and Alaskan salmon prices.

Resource Taxes

B.C. fish processors do not pay direct resource taxes corresponding to Alaska's Fisheries Business Tax, which is 4 1/2 percent of the ex-vessel value of canned fish, 3 percent of the ex-vessel value of fresh/frozen fish processed in shore-based facilities and 5% of the ex-vessel value of fish processed by floating processors. The ARA Consulting Group comments that "the lack of processing-based resource taxes in B.C. is an advantage to domestic processors."

Economic theory suggests that in a competitive market, a tax on ex-vessel value serves to reduce ex-vessel prices by a corresponding amount. Thus the fisheries business tax and other assessments on Alaska salmon fishermen likely tend to reduce relative ex-vessel prices paid to Alaska fishermen, compared with Canadian fishermen.

Processing Costs

B.C. fish processors face higher wage costs than do Alaska processors. However, labor productivity is higher and the labor force is more skilled. One B.C. processor commented to the ARA Consulting Group that "plant workers in BC plants are better trained, more productive than U.S. plant workers."

B.C. processors do not pay costs of feeding and housing processing workers. B.C. processors also face lower costs for energy, transportation of supplies, and transportation of products to market. Compared with the B.C. processing industry, much of which is located on the road system, most of the Alaska salmon industry is located in remote areas where costs are generally higher. Shorter seasons also contribute to higher average costs.

Resources available for this study did not permit a detailed comparison of Canadian and Alaskan processing costs. This would be a fruitful area for further research, although it may be difficult to reduce Alaska processing costs significantly.

Conclusions

The ARA Consulting Group summarized the comparative advantages of Canadian and Alaska processors as follows:

Canadian Assessment of Relative Comparative Advantages of BC and Alaska Processors

	Advantage	
	BC	Alaska
Raw Material		
Quality	X	
Handling Practices	X	
Harvest Location	X	
Raw Fish Costs		X
Additional Price Burden (unemp. ins., workman's comp., etc.)		X
Labor		
Wage Rates (inc. benefits)		X
Productivity	X	
Access to Skilled Labor	X	
Additional Labor Costs (transport, housing, etc.)	X	
Other Factor Inputs		
Transportation to Market	X	
Delivered Materials (packaging, etc.)	X	
Demand		
Product Quality/Reputation	X	
Branding	X	
Natural Market		X
Niche Marketing	X	
Macroeconomic Factors		
Interest Rates		X
Tax Rates		X
Exchange Rates		X
Government Policies		
Inspection		X
Generic Promotion		X
Resources Taxes	X	
Resource Management	X	
Fleet Management		X

Source: The ARA Consulting Group Inc., B.C. Fish Processing Sector Outlook. ISER file: ARA Summary Assessment.

This summary comparison illustrates the wide variety of factors that may play a role in price differences--most of which this report has touched on only briefly--and the difficulty in determining the specific contribution of each.

Comparisons of the Canadian and Alaska salmon industries are useful. The Canadian salmon industry, and federal and provincial policies affecting the salmon industry, provide many contrasts with Alaska which suggest steps that could be taken to achieve higher prices for Alaska salmon. However, not all is well in the Canadian salmon industry, and Canada should not necessarily be viewed as a perfect model for Alaska to follow. In any case, differences in salmon runs, geography and national policies limit the extent to which it would be possible for Alaska to enjoy some of the advantages enjoyed by the Canadian salmon industry.

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APPENDIX A: DATA GRAPHS

Sockeye Salmon

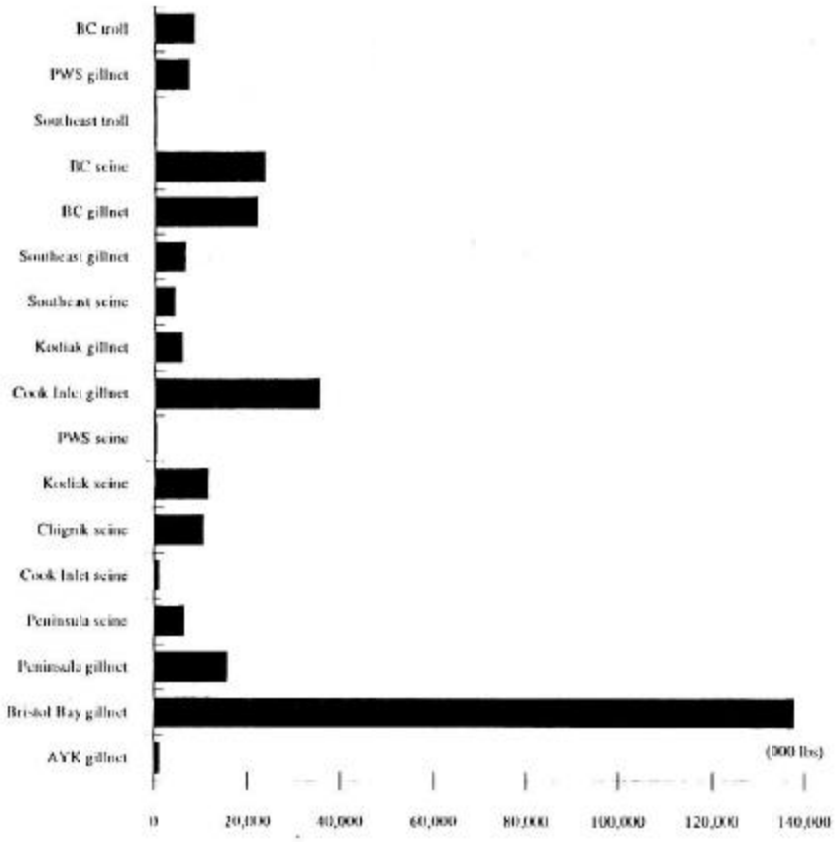
Pink Salmon

Sockeye Salmon

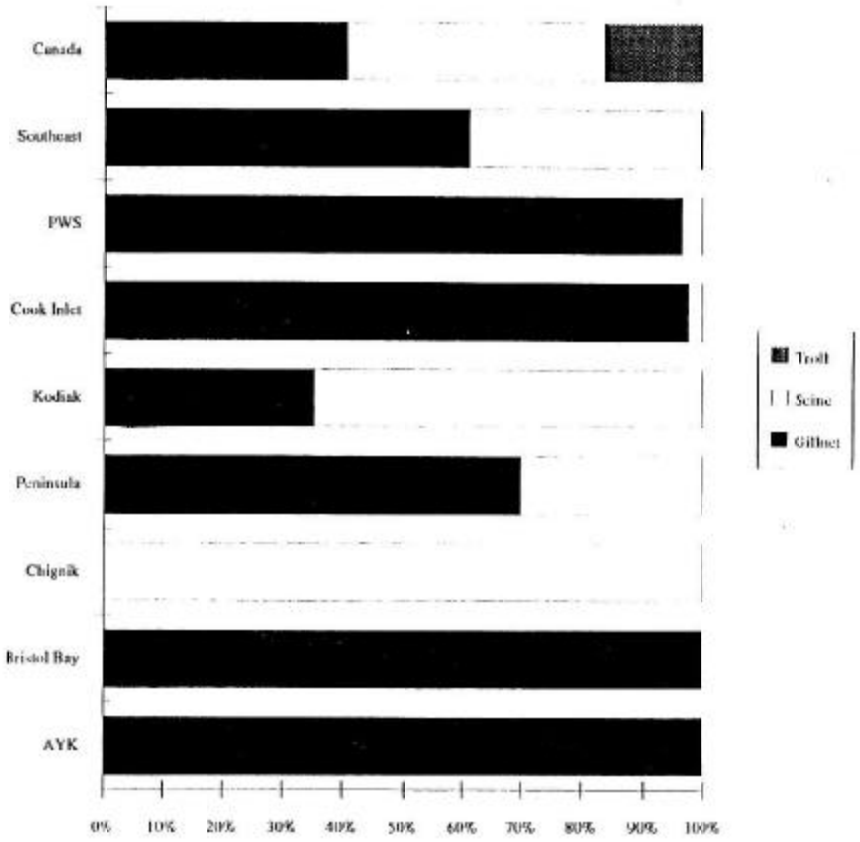
Chinook Salmon

Chum Salmon

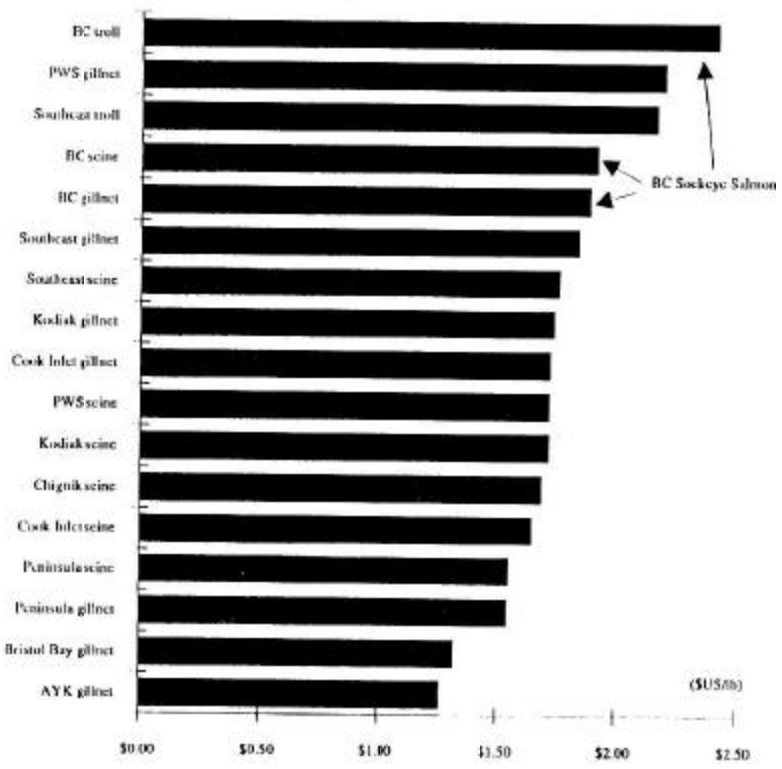
Average Sockeye Salmon Harvest Volume, 1987-1991, by Area and Gear, Canada and Alaska (arranged by averave ex-vessel price)



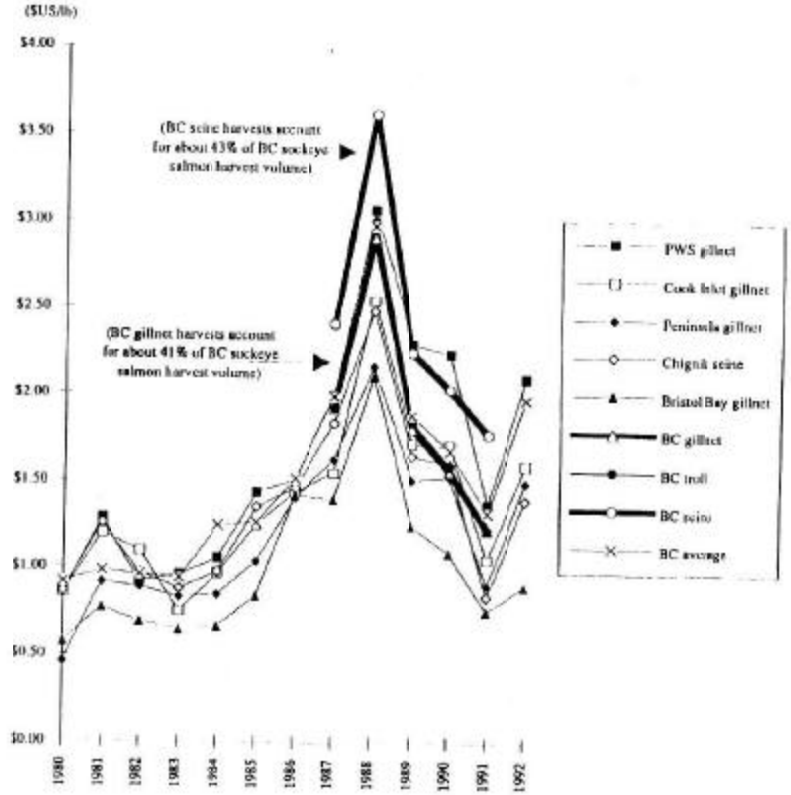
Share of Gear Types in Sockeye Salmon Harvest, 1987-1991, by Area, Canada and Alaska



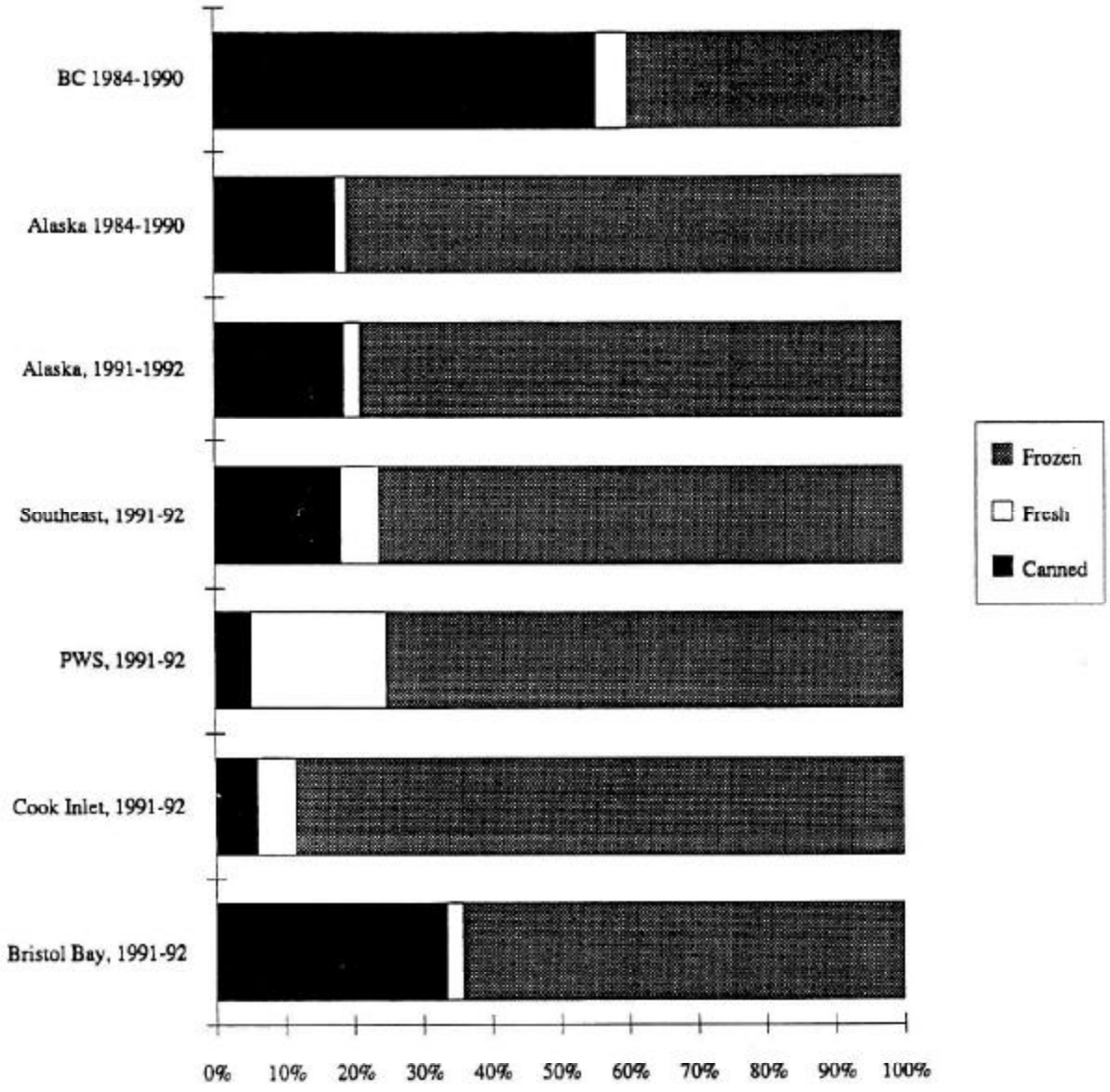
Average Ex-Vessel Price of Sockeye Salmon, 1987-1991, by Area and Gear, Canada and Alaska ($US/lb)



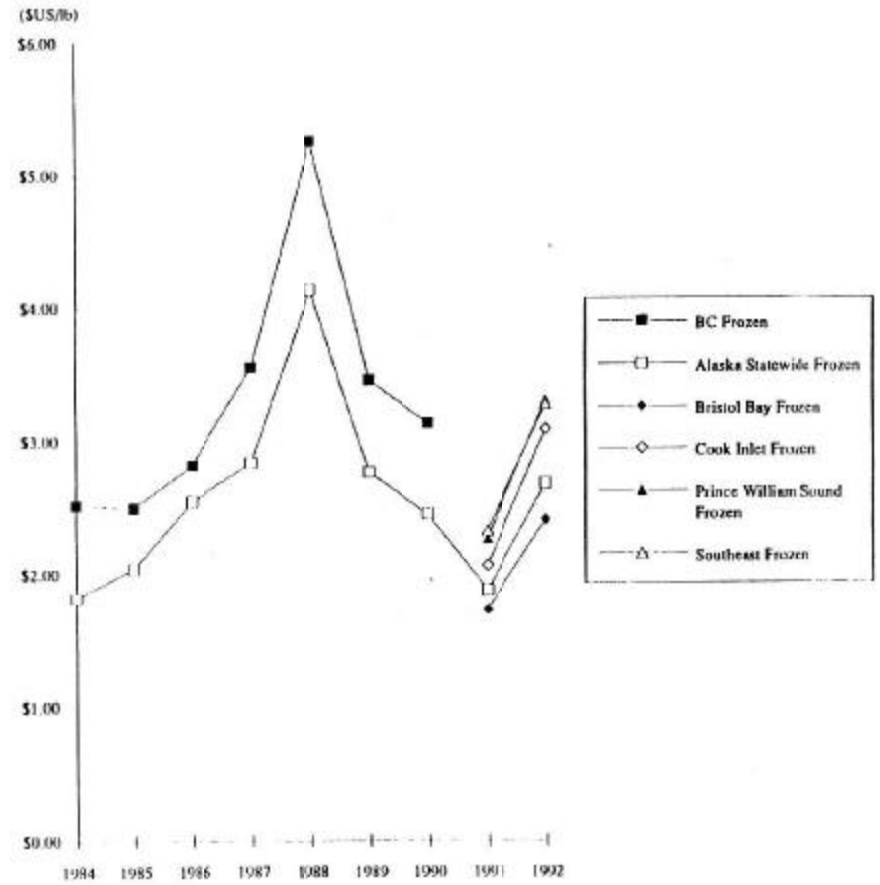
Ex-Vessel Price of Sockeye Salmon, 1987-1991, by Area and Gear Canada and Alaska



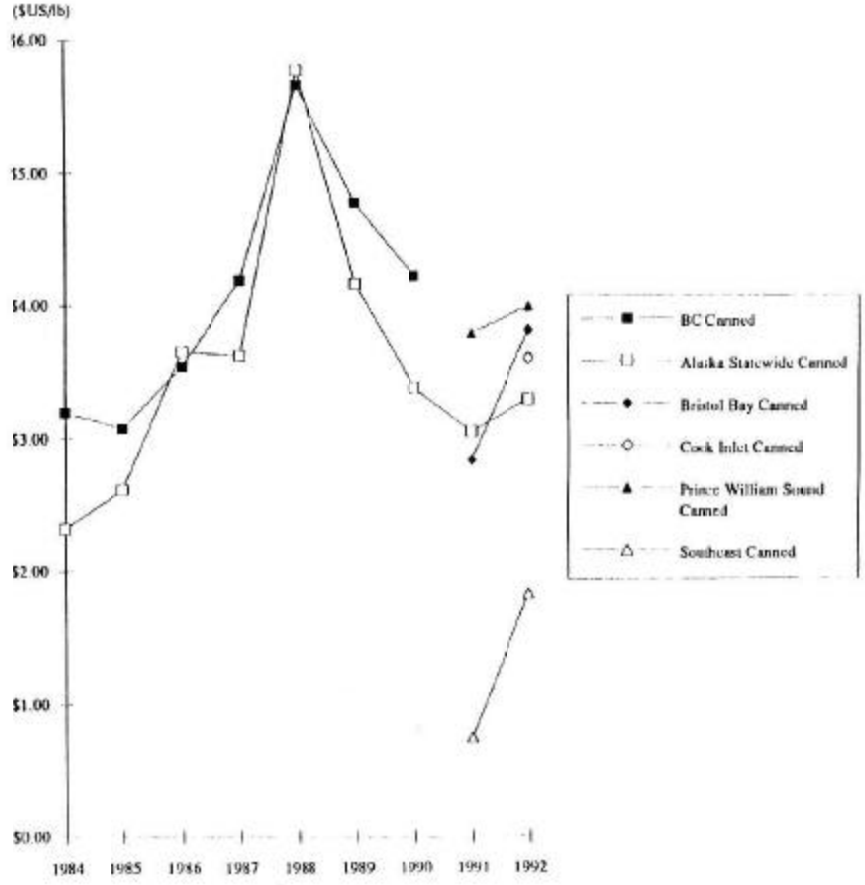
Share of Wholesale Production of Sockeye Salmon



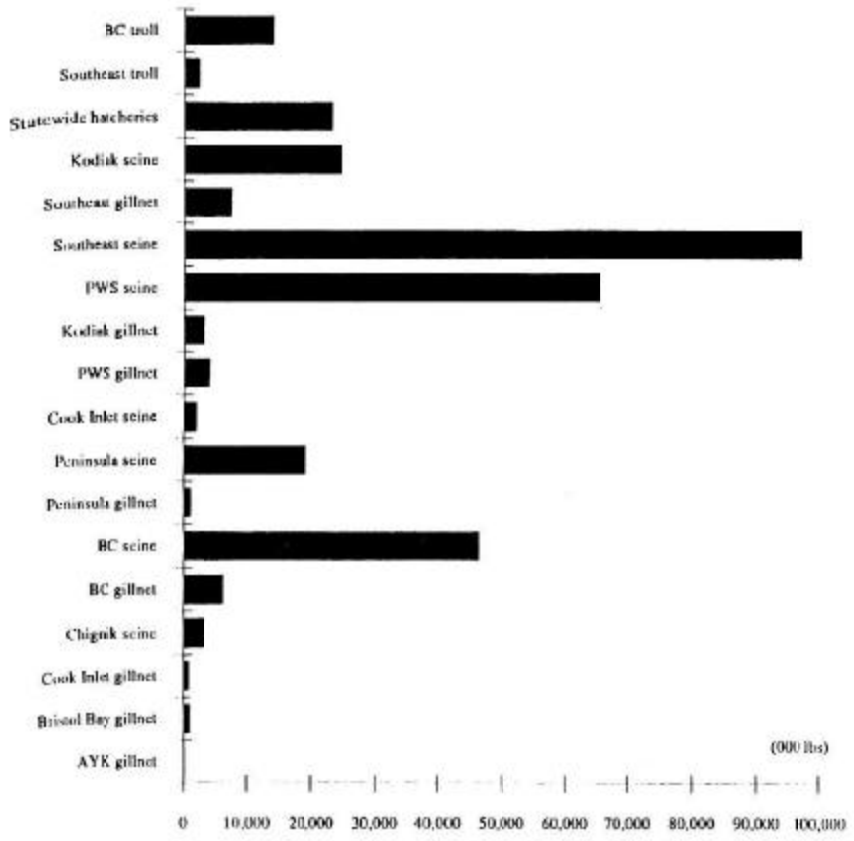
Average Price of Frozen Sockeye Salmon, by Region ($US/lb)



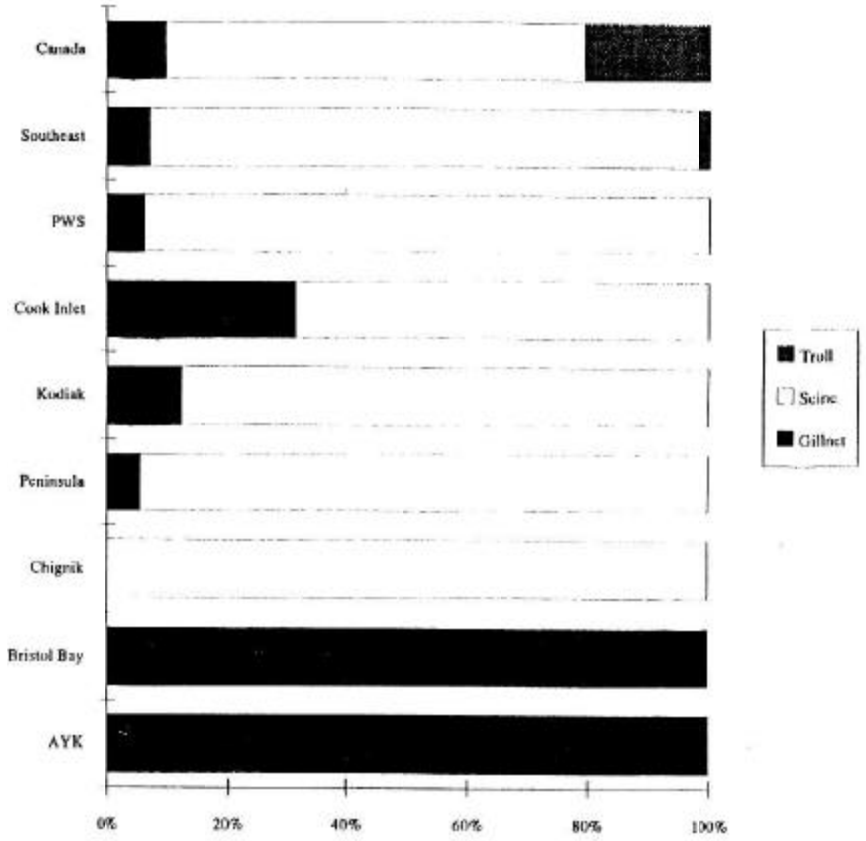
Average Price of Canned Sockeye Salmon, by Region ($US/lb)



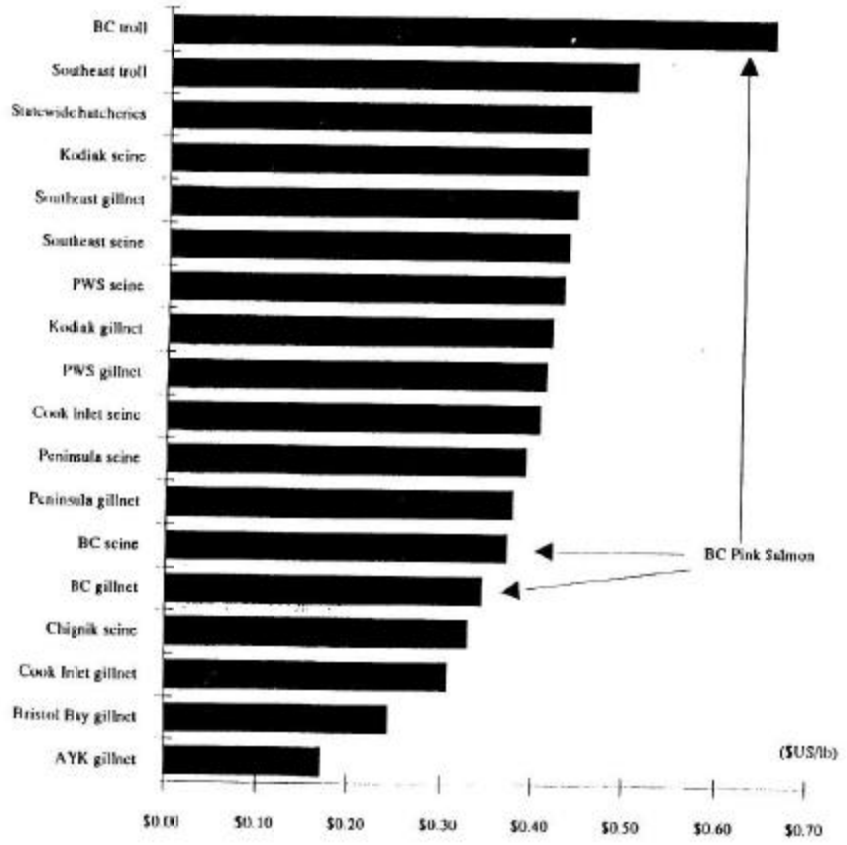
Average Pink Salmon Harvest Volume, 1987-1991, by Area and Gear, Canada and Alaska (arranged by average ex-vessel price)



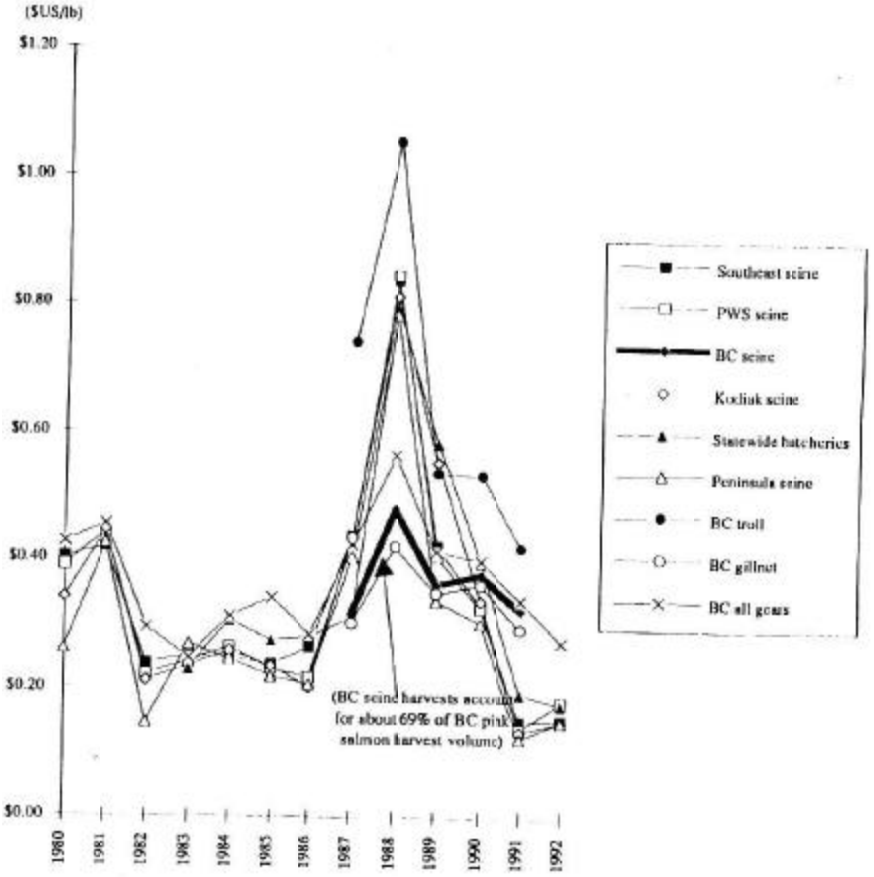
Share of Gear Types in Pink Salmon Harvest,1987-1991, by Area, Canada and Alaska



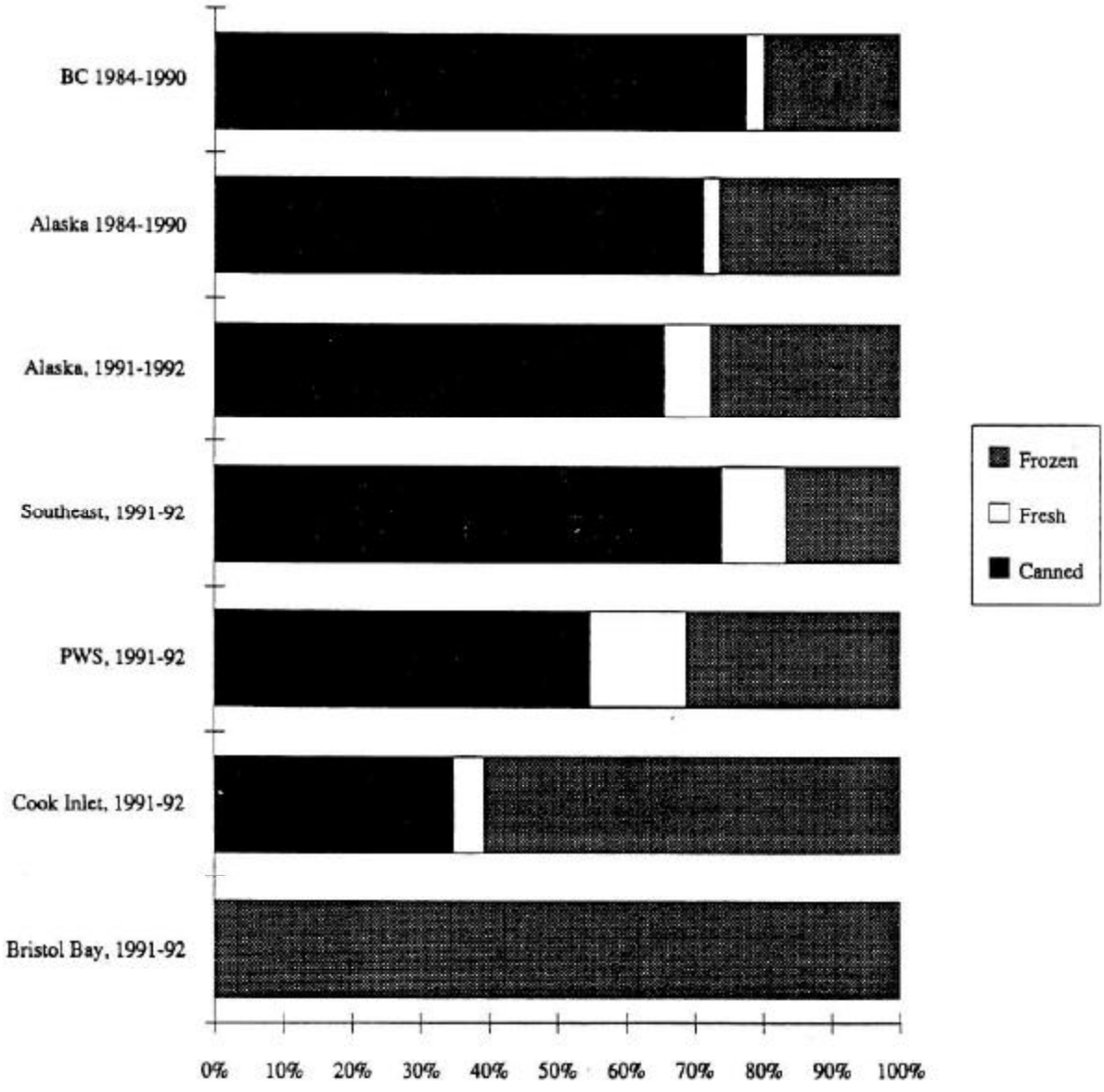
Average Ex-Vessel Price of Pink Salmon, 1987-1991, by Area and Gear, Canada and Alaska



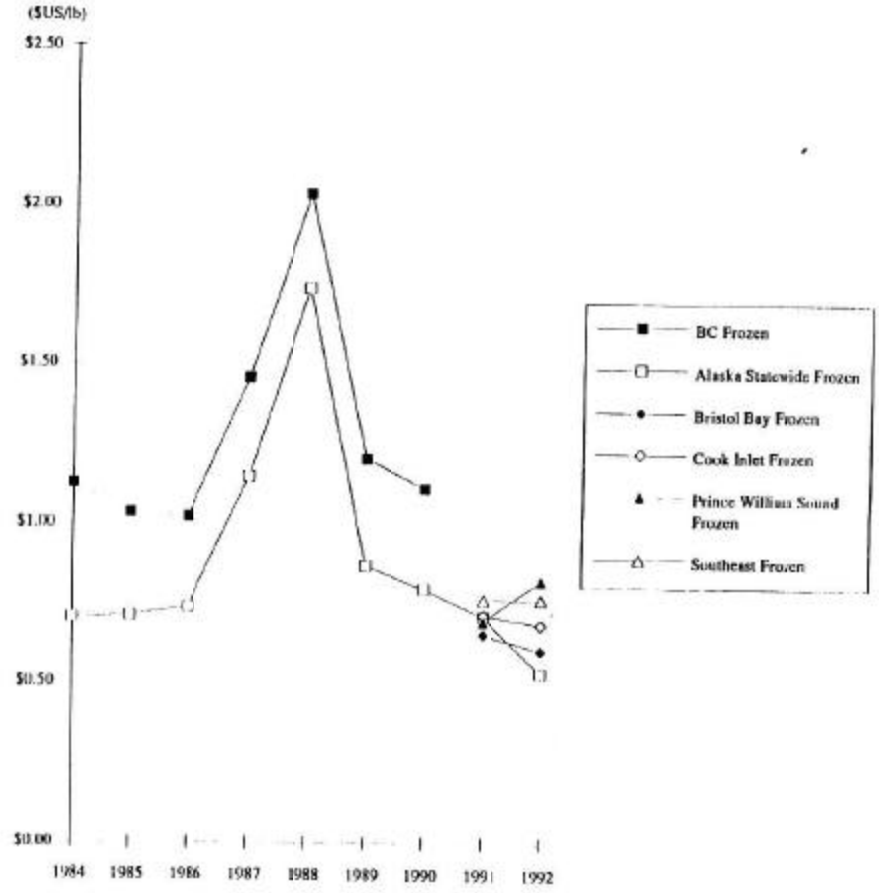
Ex-Vessel Price of Pink Salmon, 1987-1991, by Area and Gear Canada and Alaska



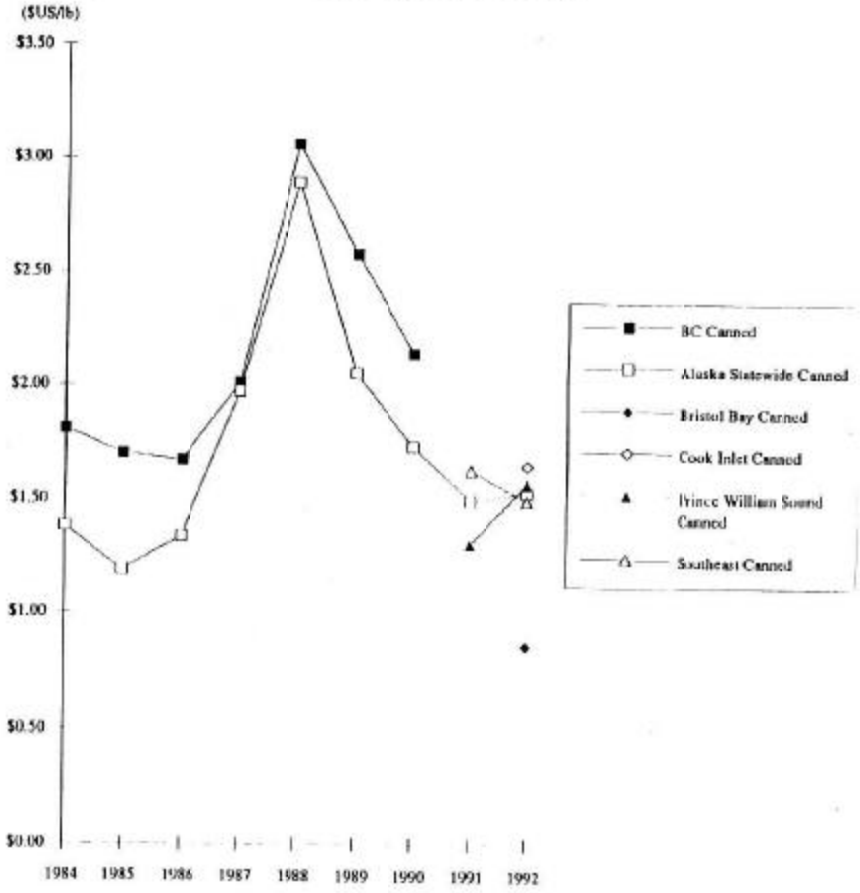
Share of Wholesale Production of Pink Salmon



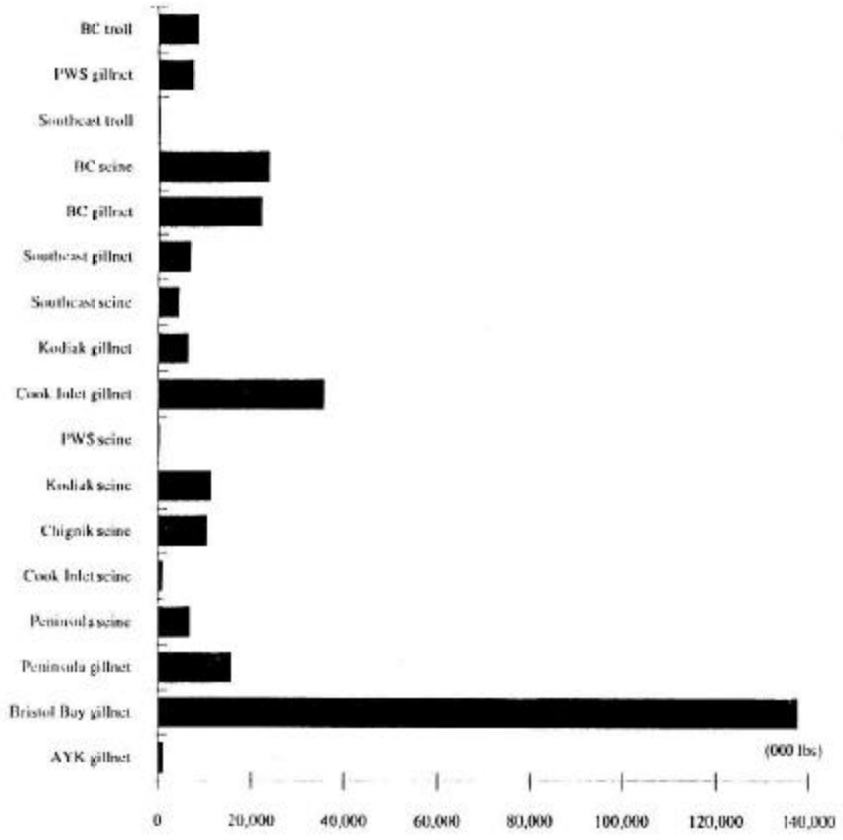
Average Price of Frozen Pink Salmon, by Region ($US/lb)



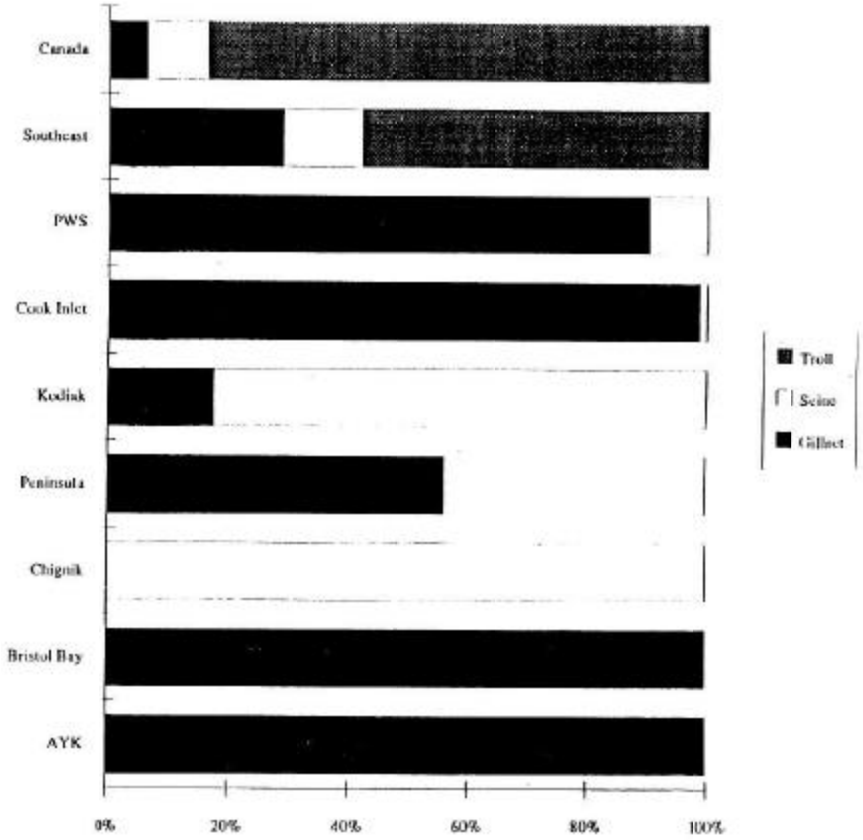
Average Price of Canned Pink Salmon, by Region ($US/lb)



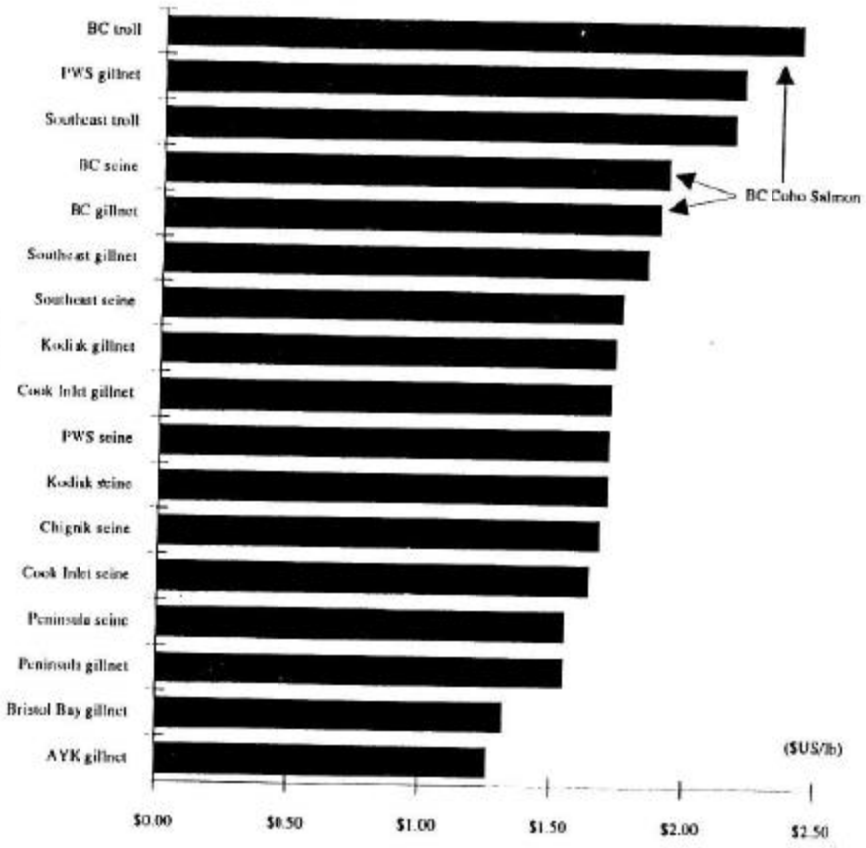
Average Coho Salmon Harvest Volume, 1987-1991, by Area and Gear, Canada and Alaska (arranged by average ex-vessel price)



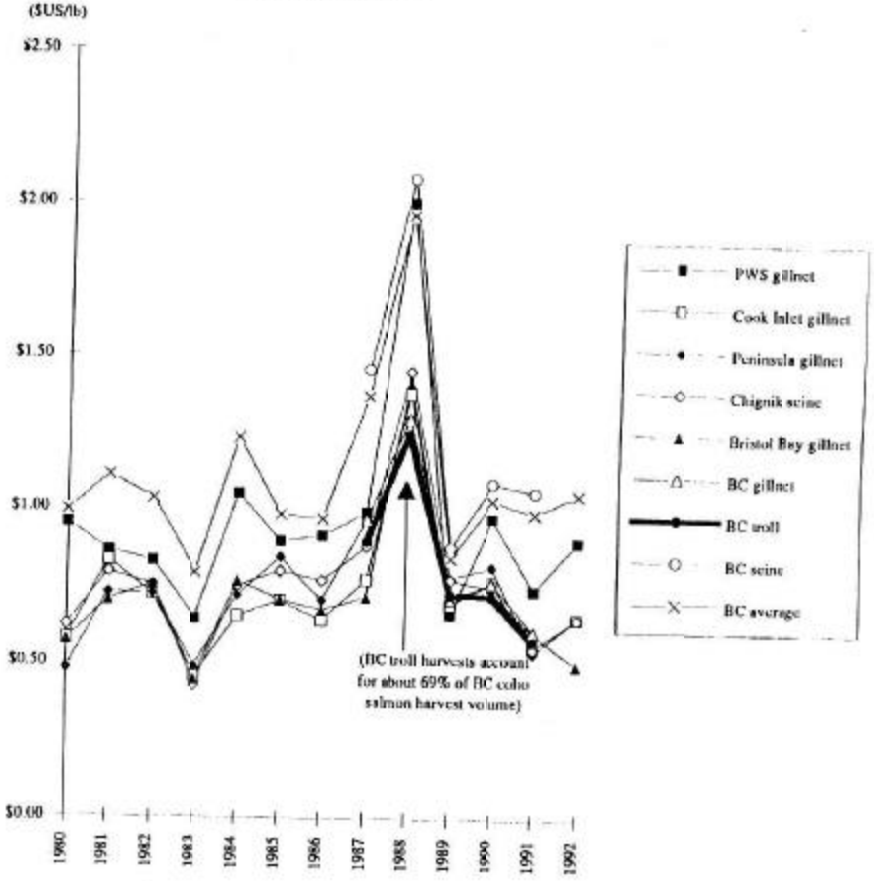
Share of Gear Types in Coho Salmon Harvest, 1987-1991, by Area, Canada and Alaska



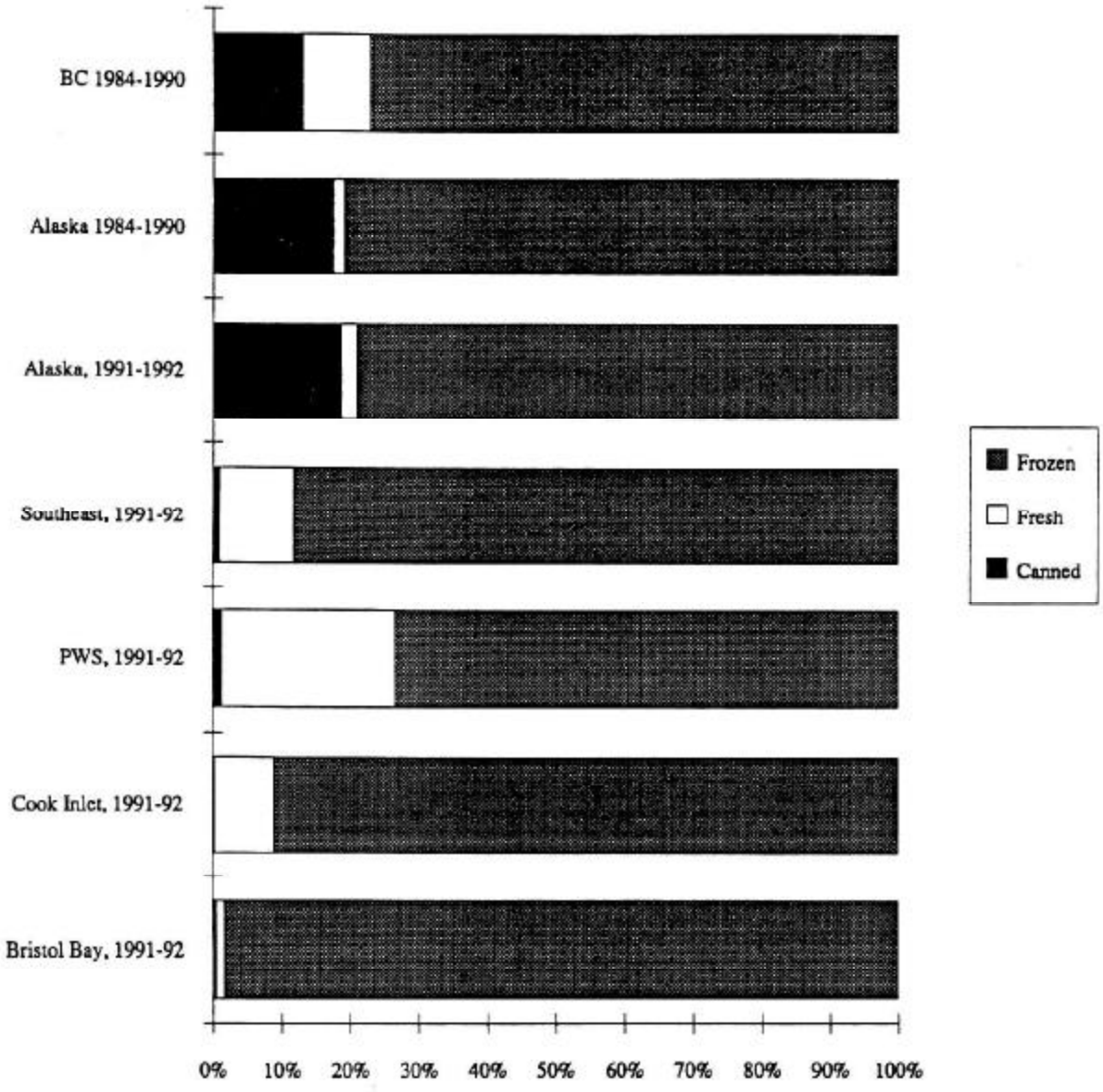
Average Ex-Vessel Price of Coho Salmon, 1987-1991, by Area and Gear, Canada and Alaska



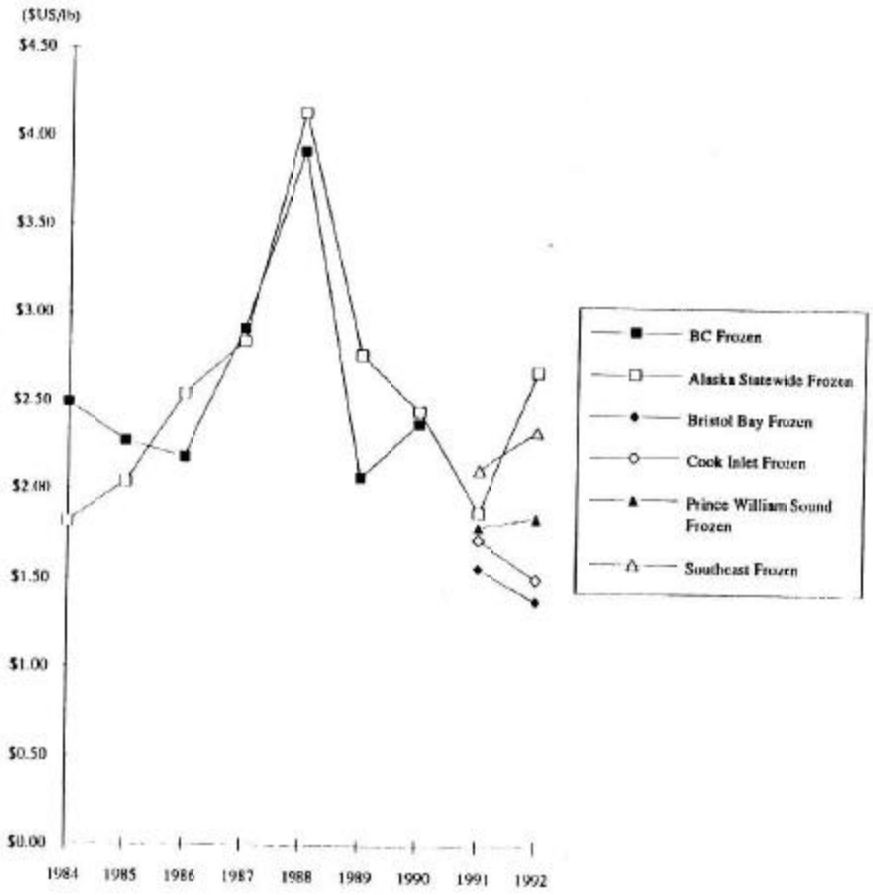
Ex-Vessel Price of Coho Salmon, 1987-1991, by Area and Gear Canada and Alaska



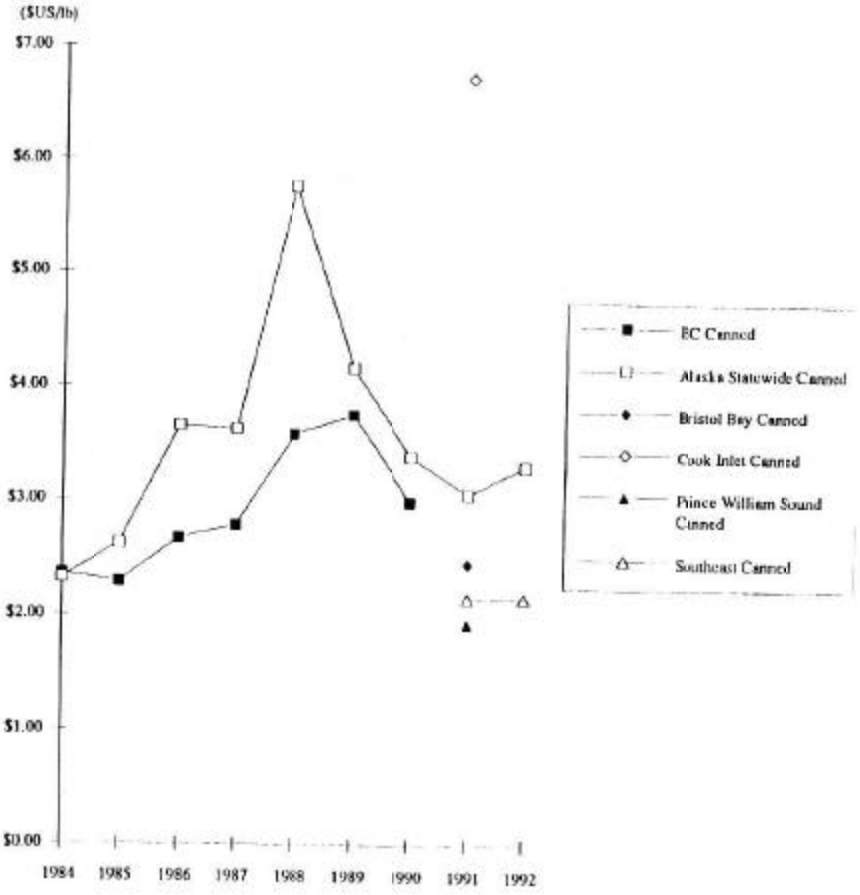
Share of Wholesale Production of Coho Salmon



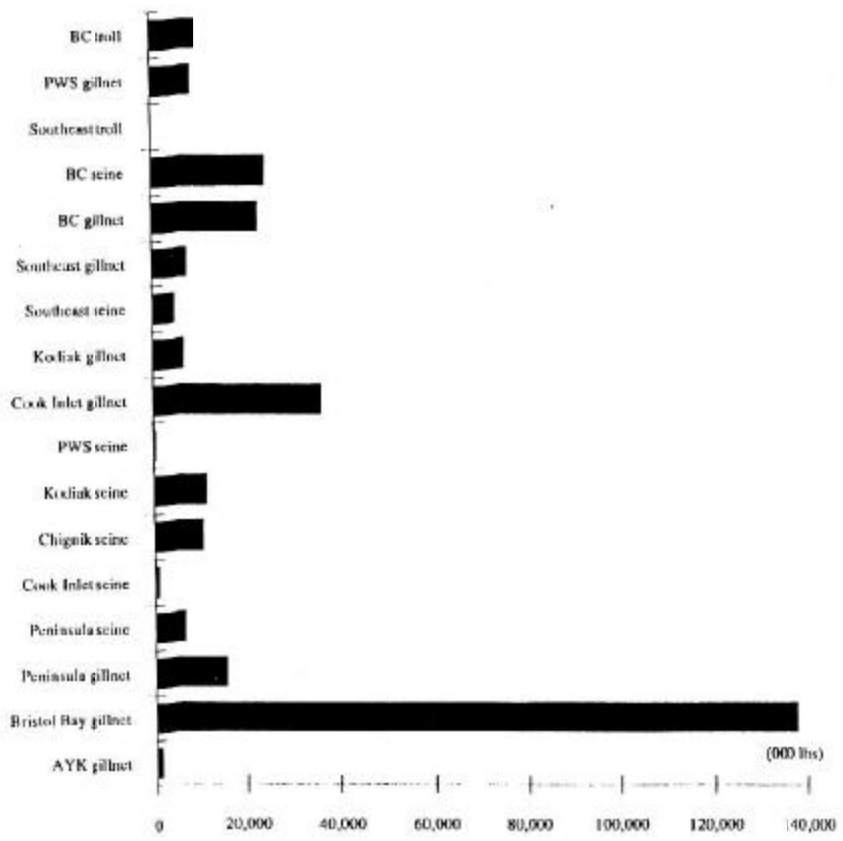
Average Price of Frozen Coho Salmon, by Region ($US/lb)



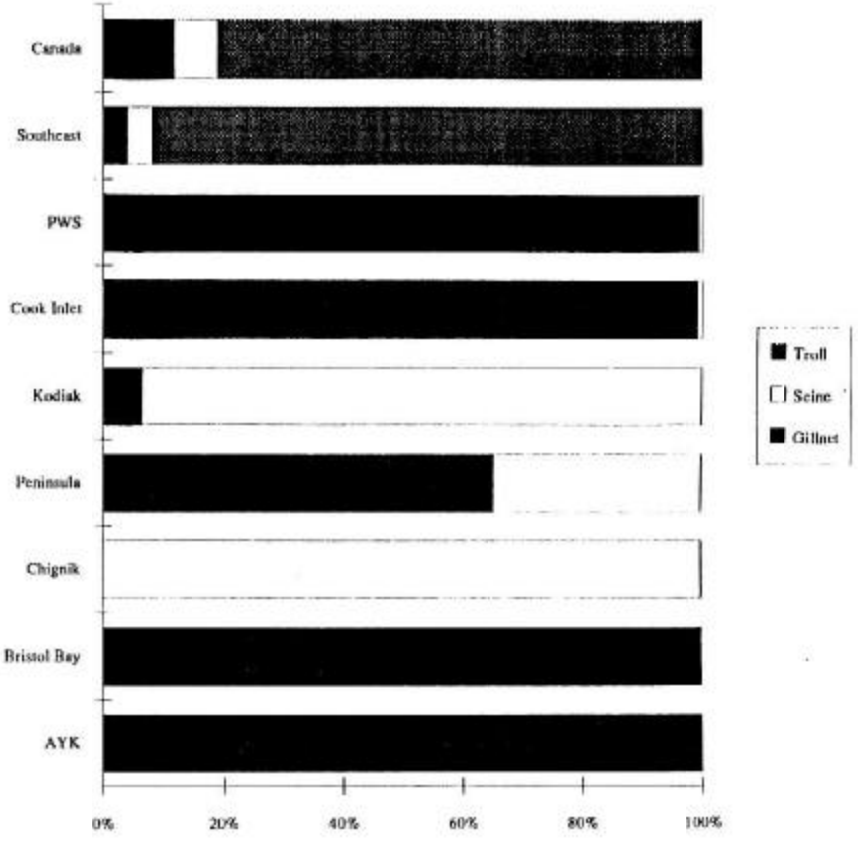
Average Price of Canned Coho Salmon, by Region ($US/lb)



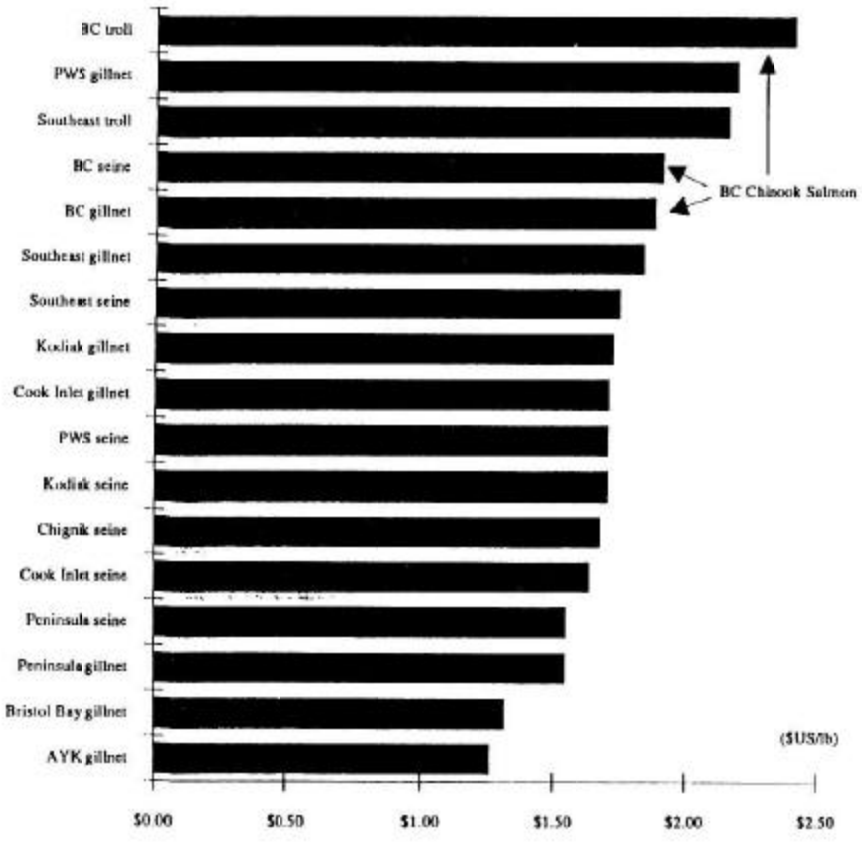
Average Chinook Salmon Harvest Volume, 1987-1991, by Area and Gear, Canada and Alaska (arranged by average ex-vessel price)



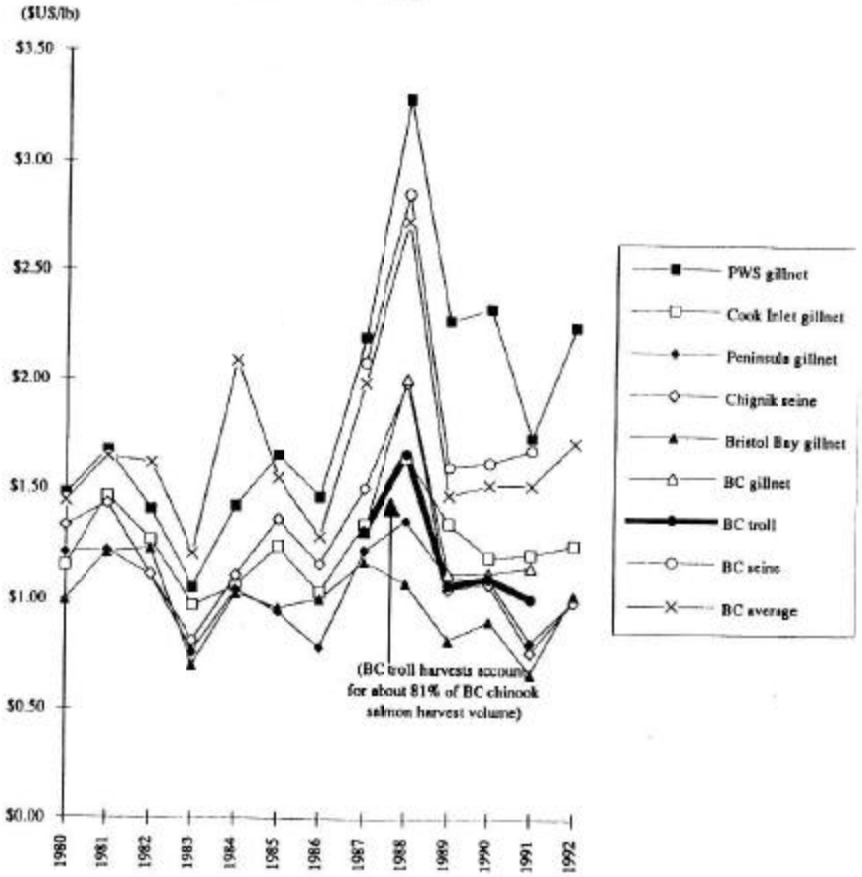
Share of Gear Types in Chinook Salmon Harvest, 1987-1991, by Area, Canada and Alaska



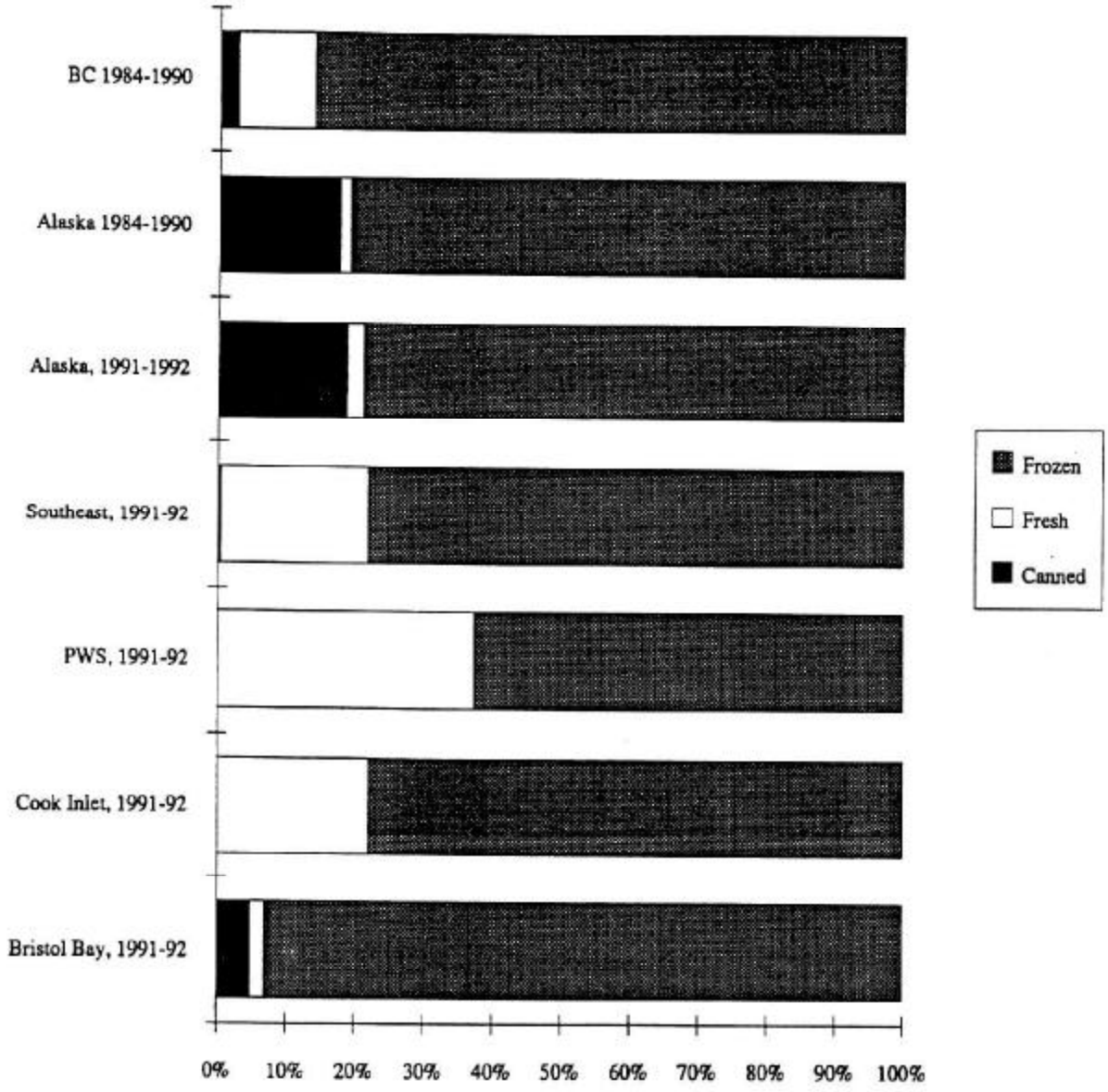
Average Ex-Vessel Price of Chinook Salmon, 1987-1991, by Area and Gear, Canada and Alaska



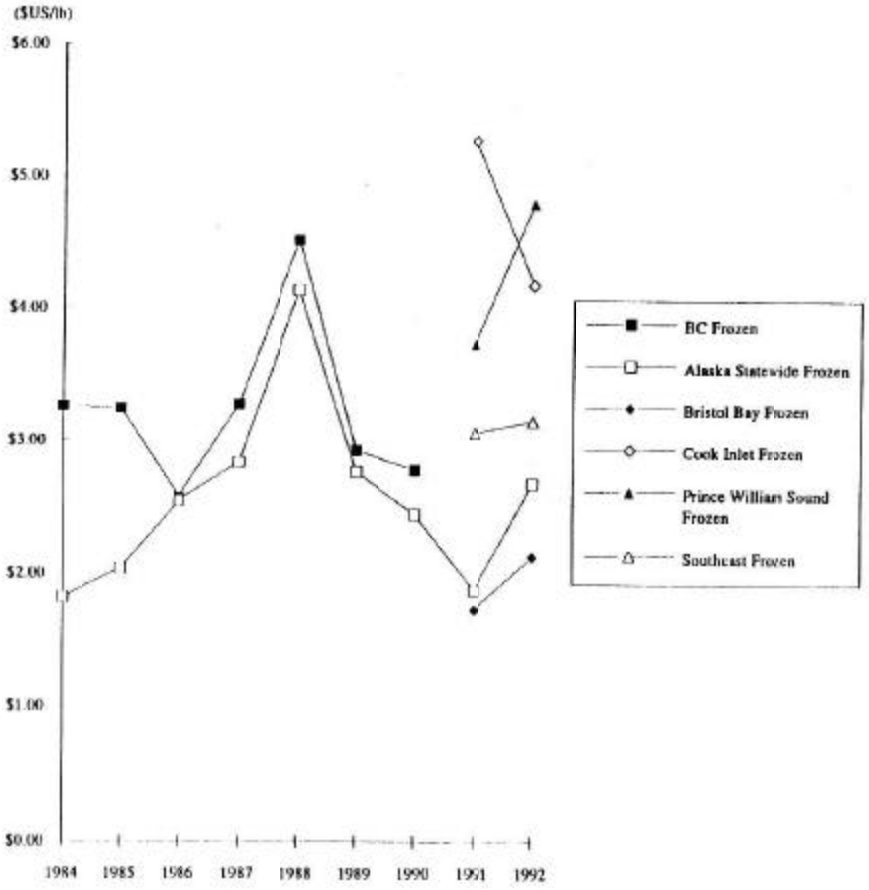
Ex-Vessel Price of Chinook Salmon, 1987-1991, by Area and Gear Canada and Alaska



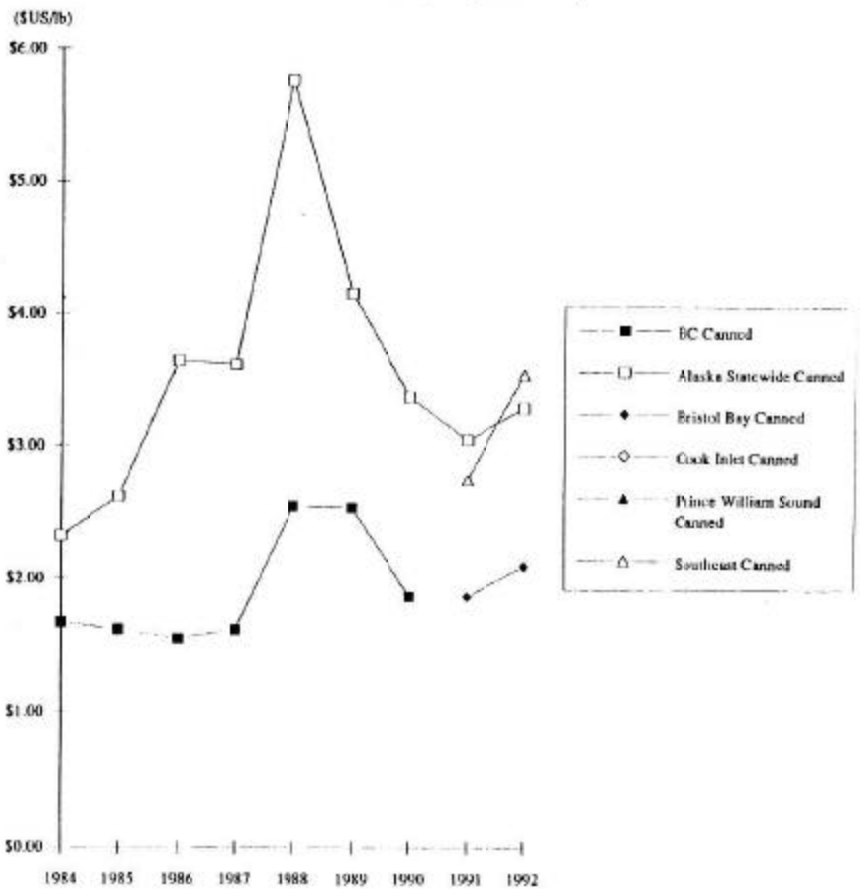
Share of Wholesale Production of Chinook Salmon



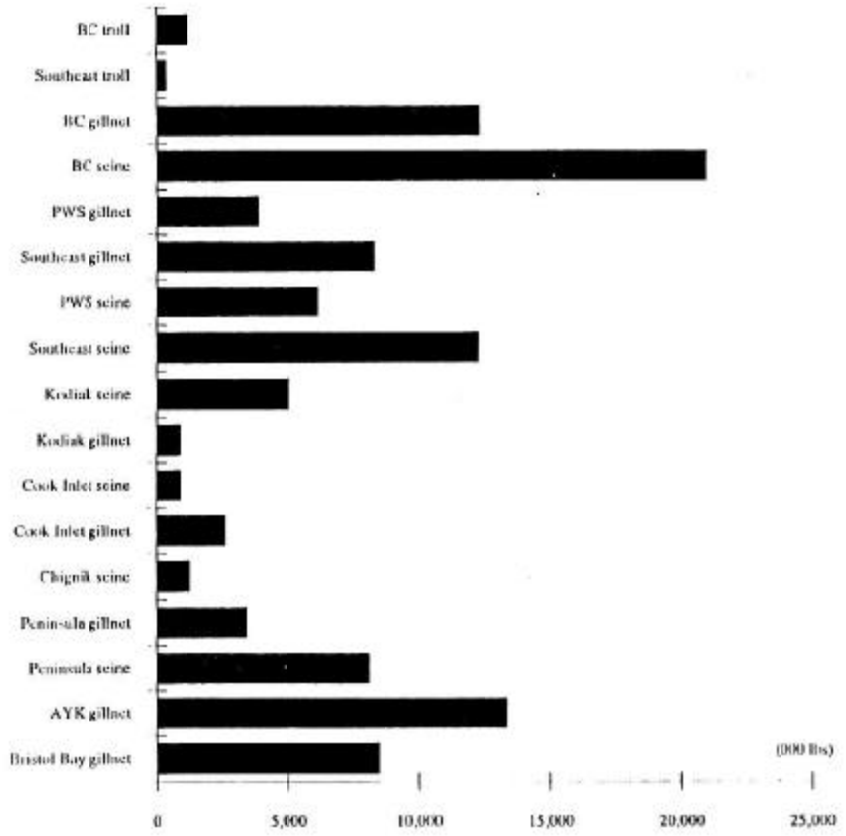
Average Price of Frozen Chinook Salmon, by Region ($US/lb)



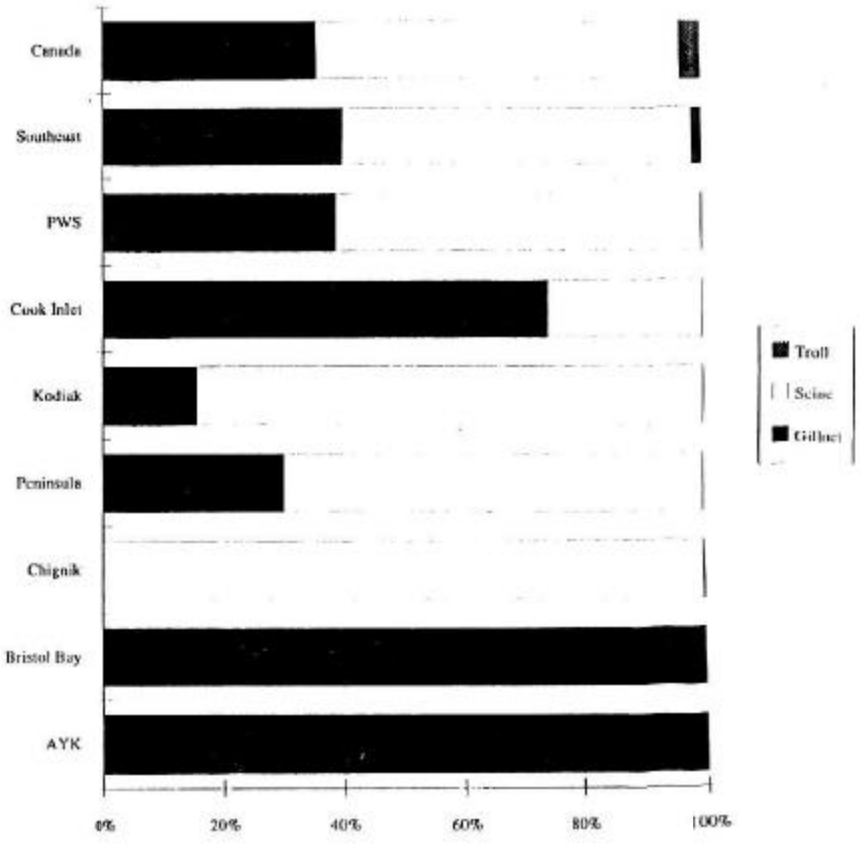
Average Price of Canned Chinook Salmon, by Region ($US/lb)



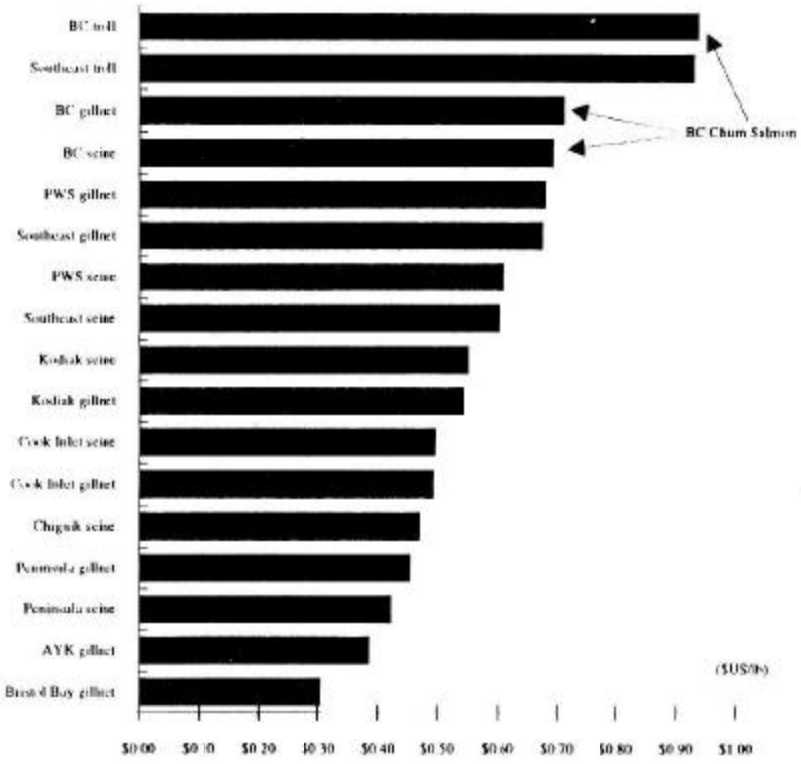
Average Chum Salmon Harvest Volume,1987-1991, by Area and Gear, Canada and Alaska (arranged by average ex-vessel price)



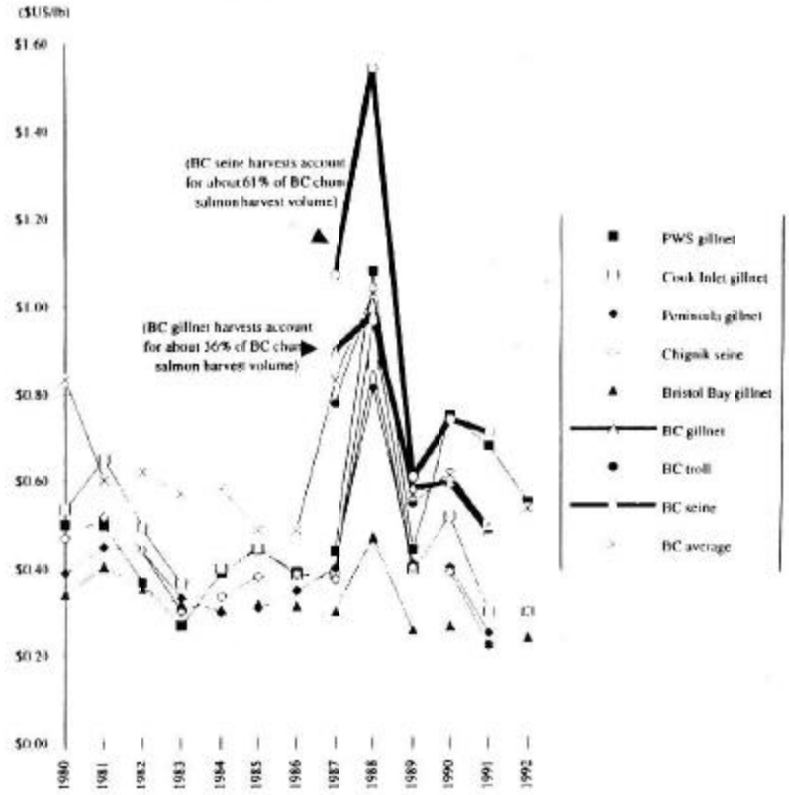
Share of Gear Types in Chum Salmon Harvest, 1987-1991, by Area, Canada and Alaska



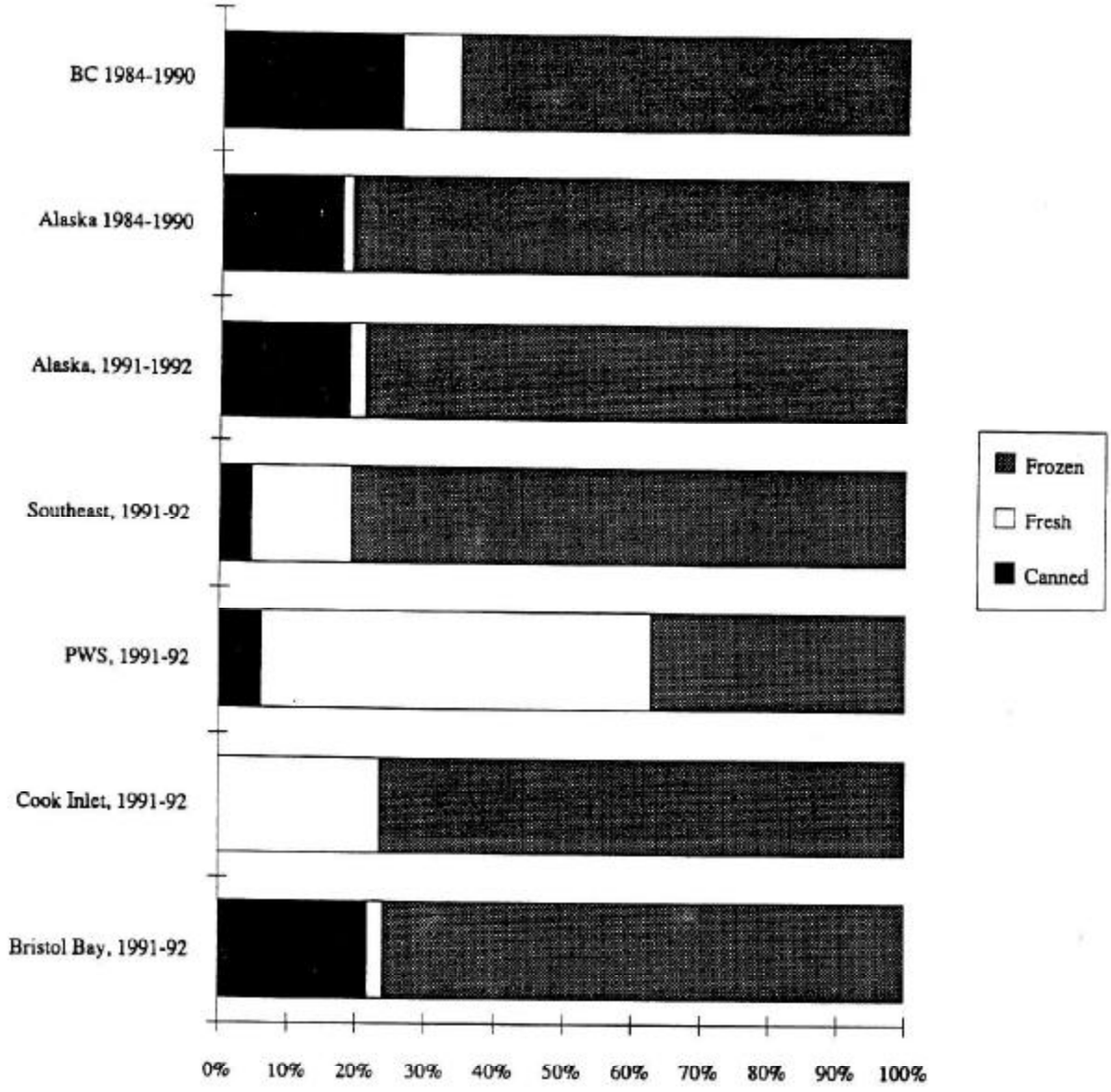
Average Ex-Vessel Price of Chum Salmon, 1987-1991, by Area and Gear, Canada and Alaska



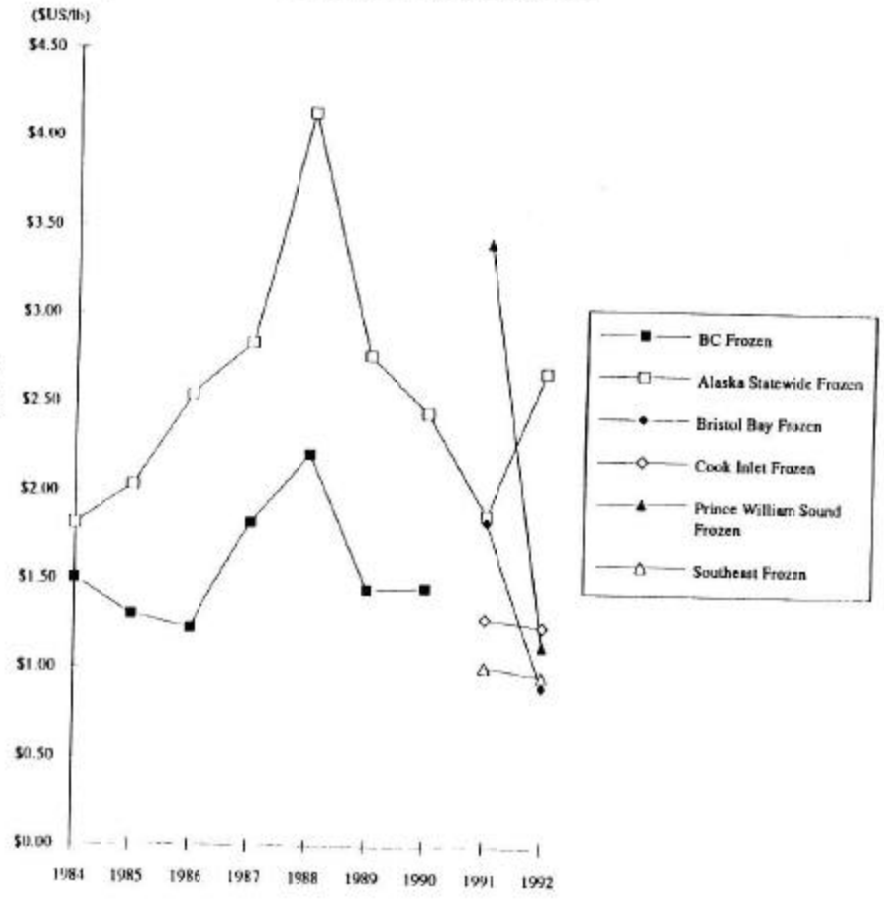
Ex-Vessel Price of Chum Salmon, 1987-1991, by Area and Gear Canada and Alaska



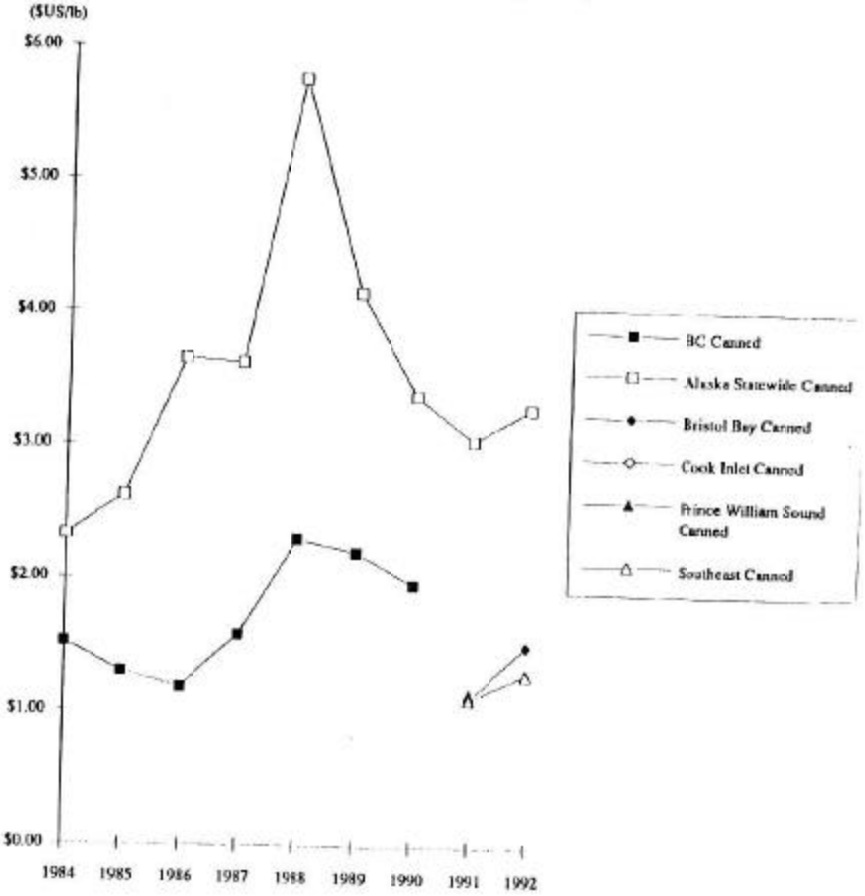
Share of Wholesale Production of Chum Salmon



Average Price of Frozen Chum Salmon, by Region ($US/lb)



Average Price of Canned Chum Salmon, by Region ($US/lb)



UNITED FISHERMEN AND ALLIED WORKERS' UNION

SALMON PRICE AGREEMENT

1992 - 1993

This Agreement made and entered into between each of the undersigned Companies severally as the Party of the First Part, hereinafter referred to as the Operator and the United Fishermen and Allied Workers' Union, hereinafter referred to as the Union.

WHEREAS: It is the intent and purpose of the Parties hereto set out hereunder the basic Agreement covering prices and fishing conditions for the 1992 and 1993 salmon seasons for purse seiners and gillnetters who are members of the Union.

WITNESSETH: The Parties hereto mutually agree with each other as follows:

ARTICLE I - HONOURING VOUCHERS

The Operators agree to honour Union vouchers for dues signed by fishers who are members of the Union or are desirous of joining the Union and who have monies due them from one of the Operators. It is understood that such voucher, when honoured, shall be paid by cheque by the Operator concerned and forwarded to the Headquarters of the Union.

It is further agreed that each Company Head Office will issue instructions to the plant managers and bookkeepers in accordance with the terms of the "Memorandum of Understanding" on vouchers between the Operators and the Union.

ARTICLE II - METHODS OF POUNDAGE BUYING

Section 1: All the salmon purchased on the grounds or at the plants shall be weighed at the time of original delivery and the weight so recorded shall constitute the basis for payment.

Section 2: In the case of an exceptionally heavy run of any salmon species in any locality rendering it impossible or difficult to weigh fish as provided in Section 1 above, it shall not be considered a violation of this Agreement if some other arrangement, such as averaging is arrived at, provided that in such instances the change arranged is concluded by mutual consent of the Union members and of the Operators in the given locality.

ARTICLE III - SCHEDULE Of MINIMUM PRICE

Section 1: The Operators agree to pay the following schedule of minimum prices for No. I Quality Salmon, caught and delivered throughout and to the end of the 1993 salmon season:

	1992	1993
Sockeye	$1.40	$1.33
Coho, Steelheads	.65	.65
Pinks	.25	.25
Chum - Dark chums all area All Season	.15	.15
- Areas 1-10-Guarantee for Brights All Season	.35	.35
- All Other Areas - Guarantee for Brights All Season	.60	.60

Section 2:

a) Red Springs, 12 pounds and over, received in good condition, without mutilation $1.35 per pound round.

b) If Red Springs are cannery grade, the minimum prices payable to fishermen shall not be less than that set forth for Cohos.

c) If White Springs are cannery grade, the minimum prices payable to fishermen shall not be less than 60¢ per round pound.

d) If Jack Springs are accepted, the minimum price payable shall be not less than 75¢ per fish.

Section 3: Gutting of Springs and Cohos - Cohos and Spring Salmon shall be gutted by the boat crew if such instructions are issued by the management.

Payment for such gutted fish shall be made on the dressed weight and shall be based on the round prices being paid by the Company at that time in the area, plus 10% to compensate for loss of weight in gutting.

In addition, a payment of 1¢ per pound gutted weight shall be made to the crew as compensation for the work involved. Such payment for work done shall be made directly to the crew and not become part of the gross stock.

It is understood that should disputes arise in the area as to whether or not the loss in weight through gutting is greater or less than 10%, then at the request of either party a test or tests may

be made to ascertain the actual percentage loss in gutting fish. The surcharge of 10% may be increased or decreased according to the results of the test(s) for all fish taken in the area from the date of the test.

ARTICLE IV - COMPETITIVE PRICES

Should any individual Company during the term of this Agreement pay a price higher than set out in Article III of this Agreement, then such Company shall make the higher price applicable to all vessels of the same gear operating in the area where the higher price is in effect and for the same period.

Where premium prices are being paid by a Company for quality production according to accepted quality standards for markets other than canning, then the Company shall make this premium price applicable to all vessels of the same gear operating in the area and supplying this quality production.

ARTICLE V - EXPORT RESTRICTIONS

It is mutually agreed and understood that the minimum prices contained in this Agreement are contingent upon there being no restriction on the export of Chums in any form throughout the season.

ARTICLE VI - LATE RUN COHO (FRASER RIVER & INLETS)

Under this Agreement, the operators have the right, if quality seriously deteriorates, to request re-opening of the price for Cohos on the Fraser River after November 1 and for Cohos in the Inlets after October I. Notice of such Intention shall be given to the Union in such case not less than seven (7) days prior to the date specified above. If no mutually agreeable price is established after such notice has been given, the Operators have the right to cease acceptance of Coho at the minimum price specified in Article III, after October 1 for fish from the Inlets and after November 1 on the Fraser River.

ARTICLE VII - BENEFIT FUND

Section 1: It is agreed that the Operators shall pay to the order of the United Fishermen's Benefit Fund (Benefit Fund) a sum equivalent to 2¢ (two cents) per pound of net caught salmon purchased in British Columbia. The Union agrees to levy similar assessments on all non-member Companies in B.C. with which the Union signs a Net Salmon Agreement.

All payments to the Benefit Fund shall be made prior to January 15th of each year. Should these payments not be made by January 15th of each year,

the parties to the contract shall include in the next contract a penalty clause of 10% per annum which shall apply to future late payments.

Section 2: It Is agreed that any claim a Benefit Fund Member may have in connection with payments to or benefits from the Fund shall be the responsibility of the Board of Trustees, in accordance with the Benefit Fund Rules and By-Laws.

Section 3: The Board of Trustees shall Include Trustees named by the Union, the Native Brotherhood of B.C. and the Fishing Vessel Owners' Association of B.C. The Fish Processors' Bargaining Association of B.C. shall be provided with a financial statement of the Fund, audited by a competent firm of chartered accountants, at least once yearly. Also provided will be the minutes of Board of Trustees and annual meetings of the Fund, regular monthly or other financial and statistical reports prepared by the Benefit Fund Director.

Section 4: The Union will not alter the basic principles as stated in the Article - Membership of the Rules and By-Laws of the Benefit Fund regarding eligibility for benefits. These principles shall be applied in any increase of benefits as a result of the increased contributions to the Benefit Fund. It is understood that the principles referred to herein are that Salmon Net Fishers who deliver salmon to Companies party to this Agreement, shall remain equally eligible for death benefits established under the Fund, regardless of membership in the Union.

Section 5: It is agreed that each member Company shall deduct the equivalent of the annual premium of the Medical/Dental Services Plan established by the Union from the earnings of the fishers covered under this Agreement. The Union shall advise the member Companies, in writing, of the exact amount to be deducted and shall provide each Company with lists of fishers who have enrolled in the Medical/Dental Services Plan and who have authorized the necessary deductions. All monies so deducted shall be forwarded to the Benefit Fund.

Section 6: Payments required under Section 5 above shall be remitted by each member Company by September 30th of each year.

Section 7: It is further agreed that each member Company shall notify the Benefit Fund not later than

September 30th of all individuals whose names have been forwarded on lists provided by the Union but on whose behalf the Company will not forward an annual premium.

ARTICLE VIII - INTERRUPTION OR CESSATION OF OPERATIONS

Section 1: In case of machinery breakdown, or any other conditions interfering with operations of a cannery, this Agreement shall immediately be held in abeyance insofar as it pertains to the individual cannery so non-operating. With the cannery again resuming operations, all terms and conditions of the Agreement shall be immediately reinstated.

Section 2: This Agreement is subject, however, to the reservation that the Operators reserve the right individually to cease operations at any time when deemed necessary and are thereby released from their obligations hereunder while closed down, except that not less than forty-eight (48) hours' notice in writing shall be given to the Union at their headquarters in Vancouver, B.C. and the same notice shall be posted at each cannery and camp of the intention to close down and all fish offered by members of the Union within the forty-eight (48) hour period must be taken and paid for at not less than the agreed prices.

ARTICLE IX

Section 1: Any dispute arising out of this Agreement which cannot be settled by the Union and the Company shall be referred to a committee of one representative of the Union and one representative of the Operators and one disinterested party, satisfactory to both the Union and the Operators for settlement.

Section 2: The effective date of this Agreement shall be April 16, 1992. This Agreement shall terminate on April 15, 1994 provided that one of the parties to the Agreement gives written notice of such termination to the other party not later than the 15th day of February 1994. Any such notice of termination shall further require the other party to the Agreement to commence negotiations. If no notice of termination is given, the Agreement shall thereafter remain in effect from year to year, provided that it may be terminated in any year after 1994 on its anniversary date (that is, on the 16th day of April) by one party to the Agreement giving the other party to the Agreement,

not later than the 15th day of February in the year which the Agreement is to be terminated, written notice of such termination and a written requirement to the other party to commence negotiations.

This section is subject to the understanding that either party to the Agreement may re-open the Agreement to re-negotiate the 1993 price of sockeye only (ARTICLE 111, Section 1) by written notification of the other party not later than July 1, 1993.

SIGNED AT VANCOUVER this 1 day of DEC., 1992.

FISH PROCESSORS' BARGAINING ASSOCIATION OF B.C.
as bargaining agent for and on behalf of each of the Companies listed and appended hereto severally.

BRITISH COLUMBIA PROVINCIAL COUNCIL UNITED FISHERMEN & ALLIED WORKERS' UNION

REPRESENTING:

British Columbia Packers Limited
The Canadian Fishing Company Limited
J.S. McMillan Fisheries Limited
Nelson Bros. Fisheries Limited
Ocean Fisheries Limited

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APPENDIX C: NOTES ON DATA SOURCES

Time Period for Data

Readers of this report may be disappointed that some of the most interesting comparisons between Canada and specific regions of Alaska are only presented for a few years. This is due to limitations on the data that were available at the time this report was written.

Most of the price data presented in this report are for the years 1980-1992. Because of the time required to calculate and publish official statistics, reliable ex-vessel price data for 1993 were not yet available either for Canada or for Alaska during the fall of 1993 when this report was written. Ex-vessel Canadian prices by gear group were only available for the period 1987 through 1991. Unfortunately this meant that detailed comparisons of Canadian and Alaska prices by gear group and region were only possible for this period of time.

Detailed wholesale production and price information were only available for Canada through 1990. Unfortunately, regional wholesale production and price data for Alaska were only available beginning with 1990. Thus comparison of wholesale production and prices between Canada and specific regions of Alaska was only possible for the year 1990.

Alaska Salmon Prices Data

The data on Alaska salmon prices are from two different sources. Detailed ex-vessel price estimates by area, gear type, and species for the years 1980-1991 are from the Commercial Fisheries Entry Commission. For each of these area/gear/species groups, the data reflect a weighted average annual ex-vessel price based on information taken from the Commercial Operators' Annual Reports which are filed with the Alaska Department of Fish and Game. These reports are required from all processors and buyers of fish operating withing Alaska. They contain summarized data on the total pounds purchased from fishermen and the total amount paid by the processor over an entire season, including post-season price adjustments. These reports are also the basis for the average Alaska wholesale price estimates, which were provided by the Alaska Department of Fish and Game.

Canadian Salmon Prices Data

Except where otherwise stated, the Canadian price data are from *Fisheries Production Statistics of British Columbia, 1990*, published by the Province of British Columbia, Ministry of Agriculture, Fisheries and Food, Aquaculture and Commercial Fisheries Branch, Commercial Fisheries Section.

APPENDIX D: DATA TABLES

Canadian Harvest and Production Data

Alaska Harvest Data

Comparison of Harvest Volumes and Prices

Comparison of Wholesale Production and Prices

Japanese Wholesale Prices

Detailed Canadian Production Data (reprinted from *Fisheries Production Statistics of British Columbia, 1990)*

Canadian Salmon Landed Volume, Landed Value, and Average Landed Price, by Species, 1980-1992

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
LANDED VOLUME (metric tons)													
Chinook	6,540	5,916	7,092	5,378	6,254	5,469	5,007	5,249	5,921	5,234	5,228	5,100	5,300
Sockeye	7,727	21,000	30,143	14,326	12,877	31,569	30,833	15,035	11,943	34,383	37,133	25,200	20,600
Coho	9,025	7,514	9,297	10,461	10,089	8,977	13,238	8,415	7,077	8,752	10,569	10,100	7,300
Pink	13,718	38,253	3,977	39,538	12,059	37,700	29,505	26,921	32,217	31,004	26,240	35,100	14,700
Chum	16,809	6,157	15,091	4,899	9,003	23,646	25,197	11,000	30,297	9,322	17,181	10,200	17,500
LANDED VALUE (thousands of Canadian dollars)													
Chinook	24,307	25,731	31,205	17,614	37,318	25,564	19,658	30,527	43,795	20,157	20,484	19,600	24,300
Sockeye	18,222	54,577	78,860	36,617	45,976	120,428	143,270	87,381	96,408	169,272	160,734	84,600	108,500
Coho	23,078	22,009	26,144	22,504	35,532	26,555	39,264	33,747	37,688	19,335	28,065	25,300	20,300
Pink	15,118	45,822	3,195	26,651	10,742	38,979	25,691	33,479	49,303	33,481	26,981	30,000	10,700
Chum	36,197	9,781	25,528	7,605	14,938	34,755	37,614	26,779	84,621	13,778	27,053	12,900	25,000
AVERAGE LANDED PRICE (Canadian dollars/kilogram)													
Chinook	3.72	4.35	4.40	3.28	5.97	4.67	3.93	5.82	7.40	3.85	3.92	3.84	4.58
Sockeye	2.36	2.60	2.62	2.56	3.57	3.81	4.65	5.81	8.07	4.92	4.33	3.36	5.27
Coho	2.56	2.93	2.81	2.15	3.52	2.96	2.97	4.01	5.33	2.21	2.66	2.50	2.81
Pink	1.10	1.20	0.80	0.67	0.89	1.03	0.87	1.24	1.53	1.08	1.03	0.85	0.73
Chum	2.15	1.59	1.69	1.55	1.66	1.47	1.49	2.43	2.79	1.48	1.57	1.26	1.43
AVERAGE PRICE (U.S. dollars/pound)													
Chinook	$1.44	$1.65	$1.62	$1.21	$2.09	$1.55	$1.28	$1.99	$2.73	$1.47	$1.52	$1.52	$1.72
Sockeye	$.92	$.98	$.96	$.94	$1.25	$1.27	$1.52	$1.99	$2.98	$1.88	$1.68	$1.33	$1.98
Coho	$.99	$1.11	$1.03	$.79	$1.23	$.98	$.97	$1.37	$1.97	$.85	$1.03	$.99	$1.05
Pink	$.43	$.45	$.29	$.25	$.31	$.34	$.28	$.42	$.56	$.41	$.40	$.34	$.27
Chum	$.83	$.60	$.62	$.57	$.58	$.49	$.49	$.83	$1.03	$.57	$.61	$.50	$.54
AVERAGE VALUE OF CANADIAN DOLLAR (in U.S. dollars)													
	0.855	0.834	0.810	0.811	0.772	0.732	0.720	0.754	0.813	0.844	0.857	0.873	0.827

Sources: 1980-1990: Aquaculture and Commercial Fisheries Branch, Province of British Columbia, Ministry of Agriculture, Fisheries and Food, Fisheries Production Statistics of British Columbia, 1990. 1991 and 1992: Province of British Columbia, Ministry of Agriculture, Fisheries and Food, The 1992 British Columbia Seafood Industry Year in Review. Value of Canadian dollar: 1980-1991: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1992, page 850. 1992: U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, August 1993, page C-5. ISER file: CANADA HARVEST DATA.

British Columbia Sockeye Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992: Canned, Fresh and Frozen

Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
Landings (round tons)	12,900	31,600	30,800	15,000	11,900	34,400	37,100	25,200	20,600
Production									
Canned pack (48 lb cases)	230798	583,579	599,320	309,597	206,715	634,429	731,791	430,700	313,800
Fresh dressed (tons)	705	718	678	494	399	972	1,886		
Frozen dressed (tons)	3574	9,241	9,079	4,819	3,852	10,585	10,075		
Wholesale Price									
Canned ($Can/48 lb case)	$198.87	$201.61	$236.11	$266.34	$334.27	$271.37	$236.11		
Fresh dressed ($/kg)	$6.08	$6.87	$8.11	$9.05	$11.87	$7.62	$6.64		
Frozen dressed ($/kg)	$7.19	$7.52	$8.63	$10.40	$14.27	$9.04	$8.07		
Wholesale Value ($ Can)	$84,191	$206,338	$237,871	$147,997	$150,134	$291,198	$290,504	$164,000	$179,000
Exchange Rate ($US/$Can)	0.7720	0.7322	0.7196	0.7542	0.8126	0.8445	0.8570	0.8726	0.8275
Production (lbs)									
Canned	11,078,304	28,011,792	28,767,360	14,860,656	9,922,320	30,452,592	35,125,968	20,673,600	15,062,400
Fresh dressed	1,554,243	1,582,903	1,494,719	1,089,072	879,635	2,142,871	4,157,876		
Frozen dressed	7,879,240	20,372,709	20,015,563	10,623,967	8,492,119	23,335,691	22,211,345		
Wholesale Price ($US/lb)									
Canned	$3.20	$3.08	$3.54	$4.18	$5.66	$4.77	$4.22		
Fresh dressed	$2.13	$2.28	$2.65	$3.10	$4.38	$2.92	$2.58		
Frozen dressed	$2.52	$2.50	$2.82	$3.56	$5.26	$3.46	$3.14		
Wholesale Value ($000 US)	$64,997	$151,075	$171,179	$111,620	$122,001	$245,903	$248,975	$143,106	$148,118
Value/Round lb ($US/lb)	$2.28	$2.17	$2.52	$3.37	$4.65	$3.24	$3.04	$2.57	$3.26

Source: Fisheries Production Statistics of British Columbia 1990, Tables 15, 16, 19, 20, 21, 22; The 1992 British Columbia Seafood Industry Year in Review, pp. 2, 3. Note: Wholesale values for 1991 and 1992 include production derived from U.S. fish. ISER file: SOCKEYE WHOLESALE ANALYSIS.

British Columbia Pink Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992: Canned, Fresh and Frozen

Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
Landings (round tons)	12,100	37,700	29,500	26,900	32,200	31,000	26,200	35,100	14,700
Production									
Canned pack (48 lb cases)	338,474	1,002,477	900,782	602,539	734,329	935,033	777,308	1,023,400	387,100
Fresh dressed (tons)	166	803	275	728	551	892	616		
Frozen dressed (tons)	1,746	6,147	1,624	5,507	4,457	6,701	3,193		
Wholesale Price									
Canned ($Can/48 lb case)	$112.35	$111.38	$111.32	$128.05	$180.85	$146.80	$119.84		
Fresh dressed ($/kg)	$2.40	$2.73	$2.74	$3.79	$3.76	$2.70	$2.82		
Frozen dressed ($/kg)	$3.20	$3.11	$3.13	$4.26	$5.52	$3.14	$2.85		
Wholesale Value ($ Can)	$38,195	$115,160	$96,812	$102,293	$160,956	$121,199	$90,810	$103,400	$61,000
Exchange Rate ($US/$Can)	0.7720	0.7322	0.7196	0.7542	0.8126	0.8445	0.8570	0.8726	0.8275
Production (lbs)									
Canned	16,246,752	48,118,896	43,237,536	28,921,872	35,247,792	44,881,584	37,310,784	49,123,200	18,580,800
Fresh dressed	365,964	1,770,294	606,265	1,604,949	1,214,735	1,966,503	1,358,034		
Frozen dressed	3,849,232	13,551,676	3,580,270	12,140,732	9,825,902	14,773,025	7,039,288		
Wholesale Price ($US/lb)									
Canned	$1.81	$1.70	$1.67	$2.01	$3.06	$2.58	$2.14		
Fresh dressed	$0.84	$0.91	$0.89	$1.30	$1.39	$1.03	$1.10		
Frozen dressed	$1.12	$1.03	$1.02	$1.46	$2.03	$1.20	$1.11		
Wholesale Value ($000 US)	$29,487	$84,317	$69,669	$77,150	$130,795	$102,347	$77,828	$90,227	$50,476
Value/Round lb ($US/lb)	$1.10	$1.01	$1.07	$1.30	$1.84	$1.50	$1.35	$1.17	$1.56

Source: Fisheries Production Statistics of British Columbia 1990, Tables 15, 16, 19, 20, 21, 22; The 1992 British Columbia Seafood Industry Year in Review, pp. 2, 3. Note: Wholesale values for 1991 and 1992 include production derived from U.S. fish. ISER file: PINK WHOLESALE ANALYSIS.

British Columbia Coho Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992: Canned, Fresh and Frozen

Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
Landings (round tons)	10,100	9,000	13,200	8,400	7,100	8,800	10,600	10,100	7,300
Production									
Canned pack (48 lb cases)	25,832	39,559	82,375	29,546	23,715	66,639	53,080	38,000	23,200
Fresh dressed (tons)	578	513	1,011	974	582	719	995		
Frozen dressed (tons)	7,219	5,627	6,852	5,642	4,410	4,967	6,463		
Wholesale Price									
Canned ($Can/48 lb case)	$146.77	$150.18	$177.61	$176.66	$211.14	$213.06	$166.88		
Fresh dressed ($/kg)	$6.24	$5.79	$5.74	$7.32	$6.87	$4.36	$4.27		
Frozen dressed ($/kg)	$7.12	$6.84	$6.68	$8.52	$10.63	$5.40	$6.11		
Wholesale Value ($ Can)	$59,624	$48,362	$66,090	$61,803	$59,134	$45,481	$53,292	$41,400	$33,000
Exchange Rate ($US/$Can)	0.7720	0.7322	0.7196	0.7542	0.8126	0.8445	0.8570	0.8726	0.8275
Production (lbs)									
Canned	1,239,936	1,898,832	3,954,000	1,418,208	1,138,320	3,198,672	2,547,840	1,824,000	1,113,600
Fresh dressed	1,274,259	1,130,960	2,228,851	2,147,280	1,283,077	1,585,107	2,193,577		
Frozen dressed	15,915,007	12,405,284	15,105,919	12,438,353	9,722,286	10,950,248	14,248,330		
Wholesale Price ($US/lb)									
Canned	$2.36	$2.29	$2.66	$2.78	$3.57	$3.75	$2.98		
Fresh dressed	$2.19	$1.92	$1.87	$2.50	$2.53	$1.67	$1.66		
Frozen dressed	$2.49	$2.27	$2.18	$2.91	$3.92	$2.07	$2.38		
Wholesale Value ($000 US)	$46,031	$35,409	$47,560	$46,612	$48,053	$38,407	$45,674	$36,125	$27,307
Value/Round lb ($US/lb)	$2.07	$1.78	$1.63	$2.51	$3.07	$1.98	$1.95	$1.62	$1.70

Source: Fisheries Production Statistics of British Columbia 1990, Tables 15, 16, 19, 20, 21, 22; The 1992 British Columbia Seafood Industry Year in Review, pp. 2, 3. Note: Wholesale values for 1991 and 1992 include production derived from U.S. fish. ISER file: COHO WHOLESALE ANALYSIS.

British Columbia Chinook Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992: Canned, Fresh and Frozen

Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
Landings (round tons)	6,300	5,500	5,000	5,200	5,900	5,200	5,200	5,100	5,300
Production									
Canned pack (48 lb cases)	2,709	4,769	6,417	3,667	3,092	8,855	7,004	3,700	2,300
Fresh dressed (tons)	653	363	491	496	392	262	589		
Frozen dressed (tons)	3,895	3,513	3,020	3,323	3,996	3,507	3,667		
Wholesale Price									
Canned ($Can/48 lb case)	$103.57	$105.87	$103.26	$102.74	$150.44	$144.33	$104.77		
Fresh dressed ($/kg)	$8.03	$7.89	$6.46	$9.00	$9.42	$6.04	$6.22		
Frozen dressed ($/kg)	$9.31	$9.78	$7.87	$9.58	$12.26	$7.65	$7.15		
Wholesale Value ($ Can)	$6,254	$5,469	$5,007	$5,249	$5,921	$5,234	$5,228	$28,400	$34,000
Exchange Rate ($US/$Can)	0.7720	0.7322	0.7196	0.7542	0.8126	0.8445	0.8570	0.8726	0.8275
Production (lbs)									
Canned	130,032	228,912	308,016	176,016	148,416	425,040	336,192	177,600	110,400
Fresh dressed	1,439,604	800,270	1,082,459	1,093,482	864,203	577,605	1,298,509		
Frozen dressed	8,586,917	7,744,760	6,657,892	7,325,886	8,809,582	7,731,532	8,084,268		
Wholesale Price ($US/lb)									
Canned	$1.67	$1.61	$1.55	$1.61	$2.55	$2.54	$1.87		
Fresh dressed	$2.81	$2.62	$2.11	$3.08	$3.47	$2.31	$2.42		
Frozen dressed	$3.26	$3.25	$2.57	$3.28	$4.52	$2.93	$2.78		
Wholesale Value ($000 US)	$4,828	$4,004	$3,603	$3,959	$4,811	$4,420	$4,481	$24,782	$28,134
Value/Round lb ($US/lb)	$0.35	$0.33	$0.33	$0.35	$0.37	$0.39	$0.39	$2.20	$2.41

Source: Fisheries Production Statistics of British Columbia 1990, Tables 15, 16, 19, 20, 21, 22; The 1992 British Columbia Seafood Industry Year in Review, pp. 2, 3. Note: Wholesale values for 1991 and 1992 include production derived from U.S. fish. ISER file: CHINOOK WHOLESALE ANALYSIS.

British Columbia Chum Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992: Canned, Fresh and Frozen

Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
Landings (round tons)	9,000	23,600	25,200	11,000	30,300	9,300	17,200	10,200	17,500
Production									
Canned pack (48 lb cases)	68,579	269,070	264,282	62,909	215,586	100,525	115,947	31,300	102,600
Fresh dressed (tons)	255	273	1,252	1,026	1,572	1,237	2,216		
Frozen dressed (tons)	5,523	10,816	11,420	6,079	14,287	4,398	7,132		
Wholesale Price									
Canned ($Can/48 lb case)	$93.82	$84.69	$78.64	$100.29	$136.02	$125.26	$110.12		
Fresh dressed ($/kg)	$3.96	$3.14	$2.72	$4.70	$5.18	$3.39	$3.41		
Frozen dressed ($/kg)	$4.30	$3.93	$3.77	$5.35	$6.01	$3.78	$3.75		
Wholesale Value ($ Can)	$34,835	$75,907	$77,904	$55,926	$145,581	$42,085	$61,856	$33,000	$51,000
Exchange Rate ($US/$Can)	0.7720	0.7322	0.7196	0.7542	0.8126	0.8445	0.8570	0.8726	0.8275
Production (lbs)									
Canned	3,291,792	12,915,360	12,685,536	3,019,632	10,348,128	4,825,200	5,565,456	1,502,400	4,924,800
Fresh dressed	562,173	601,856	2,760,159	2,261,920	3,465,631	2,727,090	4,885,394		
Frozen dressed	12,176,006	23,844,954	25,176,532	13,401,763	31,497,120	9,695,831	15,723,207		
Wholesale Price ($US/lb)									
Canned	$1.51	$1.29	$1.18	$1.58	$2.30	$2.20	$1.97		
Fresh dressed	$1.39	$1.04	$0.89	$1.61	$1.91	$1.30	$1.33		
Frozen dressed	$1.51	$1.31	$1.23	$1.83	$2.22	$1.45	$1.46		
Wholesale Value ($000 US)	$26,893	$55,577	$56,062	$42,180	$118,301	$35,539	$53,013	$28,796	$42,201
Value/Round lb ($US/lb)	$1.35	$1.07	$1.01	$1.74	$1.77	$1.73	$1.40	$1.28	$1.09

Source: Fisheries Production Statistics of British Columbia 1990, Tables 15, 16, 19, 20, 21, 22; The 1992 British Columbia Seafood Industry Year in Review, pp. 2, 3. Note: Wholesale values for 1991 and 1992 include production derived from U.S. fish. ISER file: CHUM WHOLESALE ANALYSIS.

Alaska Salmon Harvest Volume by Species and Gear Group (thousands of pounds)

Species	Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Chinook	AYK	Gillnet	4,384	5,460	4,401	3,763	3,826	4,591	2,904	3,975	3,094	3,219	3,301	2,918	3,528
	Bristol Bay	Gillnet	1,884	4,435	5,103	4,149	2,036	2,191	1,746	1,515	843	763	577	471	1,149
	Chignik	Seine	32	51	60	96	100	45	67	49	129	77	134	70	138
	Cook Inlet	Gillnet	369	295	621	628	308	694	1,033	1,159	882	663	383	304	449
		Seine	1	4	2	1	1	1	1	5	7	7	3	4	6
	Kodiak	Gillnet	4	5	4	8	14	8	5	3	20	2	15	15	42
		Seine	6	22	12	41	85	88	62	56	276	0	215	255	305
	Peninsula	Gillnet	344	410	649	646	494	465	218	289	319	214	279	192	246
		Seine	77	129	136	334	134	124	82	146	157	108	189	86	105
	PWS	Gillnet	248	531	1,246	1,381	1,154	1,187	1,080	1,136	833	830	568	795	1,006
		Seine	2	4	2	6	1	11	7	6	4	11	1	2	1
	Southeast	Gillnet	118	108	164	60	102	119	113	131	155	132	208	332	216
		Seine	195	166	477	218	391	382	250	87	232	262	192	246	415
		Troll	4,824	4,106	3,999	4,345	3,842	3,495	4,095	4,660	3,685	4,561	4,897	4,547	2,899
Chum	AYK	Gillnet	16,442	22,239	12,475	13,253	12,440	12,376	11,604	8,730	22,877	16,772	8,769	9,720	8,458
	Bristol Bay	Gillnet	7,812	9,937	6,131	10,233	12,600	6,835	7,978	9,887	10,190	7,869	6,556	7,932	3,158
	Chignik	Seine	1,765	4,503	3,231	1,205	486	145	1,304	944	2,192	12	1,757	1,674	1,592
	Cook Inlet	Gillnet	2,859	6,435	11,860	8,672	5,195	5,877	8,437	2,494	5,480	908	2,507	1,854	1,866
		Seine	565	2,698	1,738	1,730	794	221	650	1,304	3,024	84	48	171	185
	Kodiak	Gillnet	470	933	1,355	919	601	688	1,148	961	1,499	174	681	1,223	1,039
		Seine	7,778	10,177	9,730	8,486	4,947	2,711	7,303	4,367	11,194	0	3,761	5,962	3,889
	Peninsula	Gillnet	3,335	4,026	5,861	3,031	5,396	3,078	2,546	3,580	4,620	2,946	2,547	3,580	2,331
		Seine	10,336	13,870	13,361	11,304	12,371	11,042	12,136	8,754	12,637	4,899	6,435	7,801	8,790
	PWS	Gillnet	606	1,220	2,348	2,418	3,028	2,145	2,017	2,904	5,737	1,769	6,112	2,798	1,943
		Seine	3,394	15,142	9,775	7,236	7,866	8,655	12,048	12,253	9,745	5,823	2,561	268	228
	Southeast	Gillnet	6,403	3,283	5,168	5,316	11,808	12,032	8,787	8,162	12,663	6,363	7,101	7,131	8,308
		Seine	9,905	4,979	8,086	4,996	22,174	15,888	19,059	10,663	14,125	10,236	9,800	16,282	27,423
		Troll	92	72	47	149	208	386	391	87	617	513	492	180	548
Coho	AYK	Gillnet	2,530	2,181	5,049	1,783	7,497	3,441	5,254	3,633	5,384	4,950	3,608	4,793	6,571
	Bristol Bay	Gillnet	2,479	1,997	4,598	826	4,355	1,324	1,224	456	1,511	1,783	773	817	1,342
	Chignik	Seine	771	603	2,374	488	950	1,710	867	1,190	2,889	559	934	1,183	2,363
	Cook Inlet	Gillnet	1,630	3,221	5,704	3,573	3,213	4,676	4,878	2,970	3,981	2,272	3,244	2,634	3,025
		Seine	40	28	380	64	117	61	130	91	42	12	5	45	23
	Kodiak	Gillnet	99	138	292	222	220	303	272	230	329	14	457	544	447
		Seine	961	874	2,844	1,211	1,905	2,216	1,193	1,392	2,240	10	1,960	1,816	1,845
	Peninsula	Gillnet	1,191	1,335	2,304	759	2,130	1,524	1,366	1,693	2,685	2,808	2,172	2,318	2,479
		Seine	1,394	1,039	1,534	779	1,859	1,198	1,473	1,326	2,871	2,048	1,571	1,357	1,843
	PWS	Gillnet	3,289	4,082	5,794	3,431	5,860	10,279	3,966	1,204	4,342	2,470	3,836	5,124	4,627
		Seine	16	25	198	76	158	136	99	203	227	556	777	109	309
	Southeast	Gillnet	2,121	2,382	3,140	2,581	3,705	5,072	4,870	2,668	3,711	3,666	4,611	6,649	9,004
		Seine	1,273	1,718	2,987	2,389	3,009	3,276	4,393	905	1,201	2,316	2,589	2,778	3,832
		Troll	4,611	6,156	9,150	8,542	9,169	11,618	15,243	6,746	3,831	9,149	12,159	10,950	13,585
Pink	AYK	Gillnet	836	713	710	274	418	12	190	7	363	3	54	2	357
	Bristol Bay	Gillnet	8,624	25	4,992	2	10,762	2	1,412	0	3,417	2	1,913	1	1,810
	Chignik	Seine	3,635	4,479	2,917	1,201	1,651	644	2,374	900	10,724	94	1,676	3,349	5,799
	Cook Inlet	Gillnet	6,316	724	3,139	308	2,563	824	4,890	419	1,878	276	2,094	60	2,764
		Seine	2,747	11,947	1,724	2,728	2,386	4,211	4,756	666	2,693	3,939	978	1,903	612
	Kodiak	Gillnet	5,326	6,412	4,889	2,274	5,641	3,045	7,890	2,161	8,235	651	1,966	3,988	2,141
		Seine	51,650	33,536	23,981	14,139	35,984	23,720	35,290	15,731	45,739	3	17,046	44,560	10,263
	Peninsula	Gillnet	391	514	670	357	1,439	1,008	584	238	1,862	1,801	441	1,305	2,167
		Seine	34,195	18,690	25,008	10,333	48,440	17,021	13,276	3,999	24,067	25,595	10,730	32,024	32,090
	PWS	Gillnet	1,432	2,678	844	2,106	6,361	2,201	412	3,359	6,953	2,527	7,898	932	2,568
		Seine	46,421	84,164	71,095	41,097	71,143	81,915	31,585	88,550	27,063	45,691	98,109	67,904	16,393
	Southeast	Gillnet	5,920	7,377	2,960	5,581	7,141	8,734	7,140	6,781	4,583	15,284	6,894	4,168	7,566
		Seine	47,783	69,952	73,068	107,292	76,416	150,652	144,141	25,729	29,909	181,257	89,986	159,364	104,149
		Troll	931	2,279	1,442	1,440	1,775	2,716	562	1,597	1,524	5,476	2,174	1,048	1,906
	Statewide	Hatchery				2,433	2,083	5,639	3,190	14,098	8,631	46,593	28,463	18,235	12,816
Sockeye	AYK	Gillnet	294	758	692	609	533	850	1,016	1,278	1,119	597	1,364	1,406	1,360
	Bristol Bay	Gillnet	132,984	158,894	96,655	211,796	139,425	136,230	95,817	95,779	87,680	163,890	192,754	149,547	185,205
	Chignik	Seine	5,795	13,486	11,342	11,927	18,536	5,450	11,255	14,000	5,690	7,923	13,776	12,913	8,293
	Cook Inlet	Gillnet	9,513	9,577	23,129	32,692	12,699	22,911	27,777	63,857	45,381	33,205	23,192	12,399	60,147
		Seine	209	326	529	706	1,021	1,188	893	1,036	1,449	525	743	1,164	631
	Kodiak	Gillnet	1,451	2,419	3,600	2,553	2,511	3,121	6,957	3,251	4,579	7,098	7,276	9,670	4,458
		Seine	2,067	5,018	3,625	4,533	8,504	5,613	11,576	8,013	10,904	18	20,031	19,486	19,222
	Peninsula	Gillnet	11,337	16,090	13,866	16,917	15,716	17,996	16,873	12,232	13,126	16,163	19,158	19,064	27,994
		Seine	14,522	7,669	8,434	8,736	7,828	7,838	5,238	4,471	4,989	9,374	8,451	7,120	11,631
	PWS	Gillnet	568	4,091	16,082	5,329	7,432	7,991	7,378	10,651	4,574	7,883	5,440	10,248	9,490
		Seine	864	924	522	281	984	761	503	1,018	152	65	147	113	202
	Southeast	Gillnet	3,955	4,044	7,012	5,026	4,777	7,150	5,590	7,174	5,248	8,482	7,740	6,238	8,236
		Seine	3,043	2,484	2,842	4,438	2,521	4,212	3,591	1,891	3,528	5,076	5,698	6,001	7,799
		Troll	17	43	14	46	55	43	40	58	50	109	52	50	114

Note: 1992 data are preliminary. Source: Alaska Commercial Fisheries Entry Commission.

Alaska Salmon Harvest Value by Species and Gear Group (thousands of dollars)

Species	Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Chinook	AYK	Gillnet	4,103	5,915	4,825	3,959	4,925	5,823	3,943	6,913	7,058	6,431	5,966	7,843	11,047
	Bristol Bay	Gillnet	1,884	5,362	6,262	2,900	2,101	2,112	1,758	1,774	908	627	525	315	1,184
	Chignik	Seine	43	73	66	78	111	61	77	74	256	81	144	53	138
	Cook Inlet	Gillnet	424	431	787	612	327	859	1,070	1,552	1,451	893	457	367	561
		Seine	1	5	3	1	0	1	0	5	10	8	3	4	6
	Kodiak	Gillnet	4	4	4	5	14	9	6	4	29	2	16	11	53
		Seine	6	26	11	36	84	127	68	65	400	0	227	185	382
	Peninsula	Gillnet	416	500	719	490	517	440	171	352	433	236	307	155	246
		Seine	93	179	165	240	140	123	61	175	210	129	233	64	105
	PWS	Gillnet	365	889	1,751	1,455	1,640	1,964	1,579	2,496	2,733	1,888	1,323	1,387	2,262
		Seine	2	6	2	5	2	3	6	7	9	13	2	2	3
	Southeast	Gillnet	126	145	224	44	108	128	118	198	294	174	230	352	202
		Seine	296	326	1,057	235	867	667	348	155	699	275	186	202	452
		Troll	9,989	9,840	11,057	8,169	10,882	8,366	8,488	12,956	14,410	9,730	11,553	10,891	6,609
Chum	AYK	Gillnet	4,767	9,015	5,275	4,012	3,884	5,350	4,143	3,443	13,402	5,748	2,548	3,036	2,291
	Bristol Bay	Gillnet	2,656	4,024	2,170	3,254	3,818	2,174	2,497	2,976	4,789	2,022	1,750	1,785	758
	Chignik	Seine	830	2,332	1,432	363	163	55	505	354	2,113	5	689	373	478
	Cook Inlet	Gillnet	1,530	4,183	5,859	3,165	2,078	2,622	3,257	968	4,735	361	1,301	554	560
		Seine	302	1,257	721	516	194	69	178	545	2,674	29	28	44	46
	Kodiak	Gillnet	216	445	431	287	204	243	368	376	1,752	67	326	342	416
		Seine	3,958	5,443	3,428	2,401	1,682	1,085	2,373	1,900	12,627	0	1,903	1,800	1,556
	Peninsula	Gillnet	1,302	1,808	2,591	1,006	1,613	951	886	1,436	3,756	1,211	1,026	899	699
		Seine	3,411	6,297	6,026	3,504	3,526	3,290	4,223	3,283	9,705	1,876	2,168	1,880	2,637
	PWS	Gillnet	303	609	864	650	1,184	952	790	1,275	6,190	784	4,584	1,900	1,069
		Seine	1,697	7,586	3,607	1,860	2,132	3,228	4,024	5,808	10,349	2,381	1,767	110	126
	Southeast	Gillnet	4,277	1,945	2,603	2,114	5,584	5,161	3,575	6,133	14,593	3,603	3,740	2,633	3,344
		Seine	6,716	2,559	4,110	1,744	9,645	7,294	6,899	7,048	14,948	4,695	4,920	5,204	13,555
		Troll	78	45	36	85	160	263	278	70	1,194	328	319	107	279
Coho	AYK	Gillnet	1,605	1,355	2,717	706	4,619	1,760	3,175	2,818	7,231	3,122	2,374	2,141	2,835
	Bristol Bay	Gillnet	1,413	1,398	3,462	370	3,336	932	824	327	2,137	1,260	575	492	671
	Chignik	Seine	478	478	1,783	208	712	1,364	667	1,049	4,195	434	696	653	1,536
	Cook Inlet	Gillnet	937	2,677	4,113	1,622	2,095	3,283	3,122	2,293	5,493	1,577	2,495	1,456	1,966
		Seine	23	21	255	28	92	26	87	90	69	6	2	22	10
	Kodiak	Gillnet	54	83	134	86	186	211	157	190	415	7	325	249	268
		Seine	666	713	2,256	609	1,625	1,776	810	1,168	2,869	9	1,478	1,024	1,107
	Peninsula	Gillnet	572	967	1,665	370	1,531	1,288	963	1,643	3,495	2,196	1,777	1,247	1,608
		Seine	683	734	1,098	450	1,048	826	1,038	1,127	3,319	1,517	1,140	596	1,198
	PWS	Gillnet	3,125	3,519	4,809	2,199	6,153	9,210	3,629	1,194	8,710	1,633	3,744	3,797	4,164
		Seine	6	22	157	42	131	60	53	157	411	321	681	65	278
	Southeast	Gillnet	1,820	1,998	2,203	1,404	3,501	3,800	4,208	3,548	8,827	2,686	4,151	5,607	7,615
		Seine	891	1,470	2,502	896	2,811	2,454	3,277	1,039	2,369	1,534	1,924	1,613	2,674
		Troll	5,637	8,189	12,687	7,141	14,592	15,301	19,008	11,521	12,028	10,497	18,156	13,762	16,905
Pink	AYK	Gillnet	65	93	80	31	43	2	23	1	69	1	7	0	26
	Bristol Bay	Gillnet	2,156	8	1,113	0	2,443	0	206	0	1,206	0	620	0	217
	Chignik	Seine	1,454	1,846	598	309	358	141	444	264	6,767	31	447	402	870
	Cook Inlet	Gillnet	2,148	278	565	56	615	163	719	96	978	99	616	8	415
		Seine	934	5,257	257	666	620	922	794	280	2,103	1,591	293	230	91
	Kodiak	Gillnet	2,130	2,661	1,037	525	1,455	658	1,467	914	6,678	240	672	574	321
		Seine	17,561	14,915	5,084	3,308	9,284	5,563	7,164	6,874	37,140	2	5,744	5,971	1,540
	Peninsula	Gillnet	185	228	92	114	357	222	122	99	1,335	614	131	155	325
		Seine	8,891	7,943	3,676	2,779	11,916	3,745	2,761	1,620	18,868	8,626	3,241	3,971	4,813
	PWS	Gillnet	558	1,179	193	472	1,648	513	78	1,330	5,806	988	2,496	114	462
		Seine	18,104	37,201	15,712	9,945	18,782	18,922	6,885	38,076	22,895	18,551	31,885	9,439	2,951
	Southeast	Gillnet	2,416	3,159	739	1,336	1,942	2,271	1,845	3,028	3,801	6,593	2,401	694	1,247
		Seine	19,257	29,299	17,402	26,823	18,951	35,855	38,053	11,269	25,064	76,542	29,606	24,018	15,850
		Troll	520	1,279	524	448	795	939	181	646	1,506	2,594	911	260	474
	Statewide	Hatchery				558	637	1,550	896	4,391	6,881	27,213	11,293	3,539	2,265
Sockeye	AYK	Gillnet	91	434	336	311	310	510	711	1,706	2,141	765	1,511	947	1,222
	Bristol Bay	Gillnet	75,801	122,031	66,209	136,185	91,742	113,615	136,348	133,803	184,480	205,518	210,873	112,758	166,685
	Chignik	Seine	4,984	17,006	10,979	10,484	18,110	7,385	16,488	25,662	14,157	13,096	22,083	10,821	11,610
	Cook Inlet	Gillnet	8,086	11,530	25,396	24,323	12,305	28,726	40,026	98,914	115,541	57,146	39,635	13,120	96,236
		Seine	178	342	550	512	939	1,285	1,137	1,673	3,582	906	1,118	1,061	926
	Kodiak	Gillnet	1,161	2,685	3,301	2,001	2,601	3,530	9,962	5,638	12,428	12,734	10,936	8,780	6,241
		Seine	1,653	5,718	3,131	4,145	8,810	7,230	16,381	13,967	29,472	29	30,968	18,083	26,910
	Peninsula	Gillnet	5,202	14,710	12,321	13,990	13,248	18,662	23,791	19,890	28,379	24,422	29,312	17,291	41,990
		Seine	5,373	6,725	7,295	7,539	6,717	9,209	7,386	7,431	11,344	14,024	12,643	5,902	17,446
	PWS	Gillnet	483	5,273	14,779	5,111	7,863	11,492	11,154	21,270	14,028	18,092	12,163	14,132	19,930
		Seine	735	1,194	594	246	851	917	694	1,720	397	96	263	112	425
	Southeast	Gillnet	3,393	5,225	7,575	4,185	5,358	9,489	8,332	12,804	16,601	14,111	12,419	6,261	12,770
		Seine	2,334	3,210	3,166	3,684	2,789	5,892	5,440	3,369	10,301	8,342	8,776	5,326	12,559
		Troll	16	53	18	43	70	58	70	113	173	211	100	76	173

Note: 1992 data are preliminary. Source: Alaska Commercial Fisheries Entry Commission.

Alaska Salmon Average Harvest Prices by Species and Gear Group ($/lb)

Species	Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992p	1992f
Chinook	Southeast	Gillnet	$1.07	$1.35	$1.37	$0.74	$1.06	$1.08	$1.05	$1.51	$1.90	$1.32	$1.10	$1.06	$0.94	$1.15
		Seine	$1.52	$1.97	$2.22	$1.08	$2.22	$1.75	$1.39	$1.77	$3.01	$1.05	$0.97	$0.82	$1.09	$1.06
		Troll	$2.07	$2.40	$2.77	$1.88	$2.83	$2.39	$2.07	$2.78	$3.91	$2.13	$2.36	$2.40	$2.28	$2.56
	PWS	Gillnet	$1.48	$1.67	$1.41	$1.05	$1.42	$1.66	$1.46	$2.20	$3.28	$2.28	$2.33	$1.74	$2.25	$2.77
		Seine	$1.48	$1.58	$1.38	$0.96	$1.14	$0.25	$0.88	$1.24	$2.47	$1.17	$1.48	$0.97	$2.25	$1.14
	Cook Inlet	Gillnet	$1.15	$1.46	$1.27	$0.98	$1.06	$1.24	$1.04	$1.34	$1.65	$1.35	$1.19	$1.21	$1.25	$1.29
		Seine	$1.15	$1.25	$1.25	$0.79	$0.76	$1.24	$0.27	$0.89	$1.41	$1.15	$1.02	$0.97	$0.96	$1.00
	Kodiak	Gillnet	$1.01	$0.95	$1.12	$0.55	$0.98	$1.23	$1.14	$1.27	$1.50	$1.17	$1.07	$0.72	$1.25	$1.00
		Seine	$1.01	$1.19	$0.96	$0.86	$0.98	$1.43	$1.10	$1.17	$1.45	$0.00	$1.06	$0.72	$1.25	$1.02
	Peninsula	Gillnet	$1.21	$1.22	$1.11	$0.76	$1.05	$0.95	$0.78	$1.22	$1.36	$1.10	$1.10	$0.81	$1.00	$1.03
		Seine	$1.21	$1.38	$1.22	$0.72	$1.04	$0.99	$0.75	$1.20	$1.34	$1.20	$1.23	$0.74	$1.00	$0.93
	Chignik	Seine	$1.33	$1.43	$1.11	$0.81	$1.11	$1.36	$1.16	$1.50	$1.99	$1.05	$1.08	$0.77	$1.00	$1.10
	Bristol Bay	Gillnet	$1.00	$1.21	$1.23	$0.70	$1.03	$0.96	$1.01	$1.17	$1.08	$0.82	$0.91	$0.67	$1.03	$0.93
	AYK	Gillnet	$0.94	$1.08	$1.10	$1.05	$1.29	$1.27	$1.36	$1.74	$2.28	$2.00	$1.81	$2.69	$3.13	$3.11
Sockeye	Southeast	Gillnet	$0.86	$1.29	$1.08	$0.83	$1.12	$1.33	$1.49	$1.79	$3.16	$1.66	$1.60	$1.00	$1.55	$1.72
		Seine	$0.77	$1.29	$1.11	$0.83	$1.11	$1.40	$1.52	$1.78	$2.92	$1.64	$1.54	$0.89	$1.61	$1.67
		Troll	$0.90	$1.23	$1.28	$0.94	$1.27	$1.36	$1.76	$1.95	$3.48	$1.94	$1.93	$1.52	$1.52	$1.91
	PWS	Gillnet	$0.85	$1.29	$0.92	$0.96	$1.06	$1.44	$1.51	$2.00	$3.07	$2.30	$2.24	$1.38	$2.10	$2.16
		Seine	$0.85	$1.29	$1.14	$0.87	$0.87	$1.21	$1.38	$1.69	$2.62	$1.47	$1.80	$0.99	$2.10	$1.67
	Cook Inlet	Gillnet	$0.85	$1.20	$1.10	$0.74	$0.97	$1.25	$1.44	$1.55	$2.55	$1.72	$1.71	$1.06	$1.60	$1.60
		Seine	$0.85	$1.05	$1.04	$0.73	$0.92	$1.08	$1.27	$1.62	$2.47	$1.73	$1.51	$0.91	$1.47	$1.47
	Kodiak	Gillnet	$0.80	$1.11	$0.92	$0.78	$1.04	$1.13	$1.43	$1.73	$2.71	$1.79	$1.50	$0.91	$1.40	$1.46
		Seine	$0.80	$1.14	$0.86	$0.91	$1.04	$1.29	$1.42	$1.74	$2.70	$1.64	$1.55	$0.93	$1.40	$1.47
	Peninsula	Gillnet	$0.46	$0.91	$0.89	$0.83	$0.84	$1.04	$1.41	$1.63	$2.16	$1.51	$1.53	$0.91	$1.50	$1.46
		Seine	$0.37	$0.88	$0.87	$0.86	$0.86	$1.18	$1.41	$1.66	$2.27	$1.50	$1.50	$0.83	$1.50	$1.46
	Chignik	Seine	$0.86	$1.26	$0.97	$0.88	$0.98	$1.36	$1.47	$1.83	$2.49	$1.65	$1.60	$0.84	$1.40	$1.47
	Bristol Bay	Gillnet	$0.57	$0.77	$0.69	$0.64	$0.66	$0.83	$1.42	$1.40	$2.10	$1.25	$1.09	$0.75	$0.90	$1.12
	AYK	Gillnet	$0.31	$0.57	$0.49	$0.51	$0.58	$0.60	$0.70	$1.34	$1.91	$1.28	$1.11	$0.67	$0.90	$0.92
Coho	Southeast	Gillnet	$0.86	$0.84	$0.70	$0.54	$0.95	$0.75	$0.86	$1.33	$2.38	$0.73	$0.90	$0.84	$0.85	$0.93
		Seine	$0.70	$0.86	$0.84	$0.38	$0.93	$0.75	$0.75	$1.15	$1.97	$0.66	$0.74	$0.58	$0.70	$0.75
		Troll	$1.22	$1.33	$1.39	$0.84	$1.59	$1.32	$1.25	$1.71	$3.14	$1.15	$1.49	$1.26	$1.24	$1.53
	PWS	Gillnet	$0.95	$0.86	$0.83	$0.64	$1.05	$0.90	$0.92	$0.99	$2.01	$0.66	$0.98	$0.74	$0.90	$0.99
		Seine	$0.39	$0.90	$0.79	$0.55	$0.83	$0.44	$0.54	$0.77	$1.81	$0.58	$0.88	$0.59	$0.90	$0.82
	Cook Inlet	Gillnet	$0.58	$0.83	$0.72	$0.45	$0.65	$0.70	$0.64	$0.77	$1.38	$0.69	$0.77	$0.55	$0.65	$0.65
		Seine	$0.58	$0.75	$0.67	$0.43	$0.78	$0.42	$0.67	$0.98	$1.66	$0.52	$0.50	$0.59	$0.43	$0.59
	Kodiak	Gillnet	$0.55	$0.60	$0.46	$0.39	$0.85	$0.70	$0.58	$0.83	$1.26	$0.52	$0.71	$0.46	$0.60	$0.59
		Seine	$0.69	$0.82	$0.79	$0.50	$0.85	$0.80	$0.68	$0.84	$1.28	$0.84	$0.75	$0.56	$0.60	$0.56
	Peninsula	Gillnet	$0.48	$0.73	$0.72	$0.49	$0.72	$0.85	$0.71	$0.97	$1.30	$0.78	$0.82	$0.54	$0.65	$0.63
		Seine	$0.49	$0.71	$0.72	$0.58	$0.56	$0.69	$0.71	$0.85	$1.16	$0.74	$0.73	$0.44	$0.65	$0.63
	Chignik	Seine	$0.62	$0.79	$0.75	$0.43	$0.75	$0.80	$0.77	$0.88	$1.45	$0.78	$0.75	$0.55	$0.65	$0.55
	Bristol Bay	Gillnet	$0.57	$0.70	$0.75	$0.45	$0.77	$0.70	$0.67	$0.72	$1.41	$0.71	$0.74	$0.60	$0.50	$0.59
	AYK	Gillnet	$0.64	$0.62	$0.54	$0.40	$0.62	$0.51	$0.60	$0.78	$1.34	$0.63	$0.66	$0.45	$0.43	$0.44
Pink	Southeast	Gillnet	$0.41	$0.43	$0.25	$0.24	$0.27	$0.26	$0.26	$0.45	$0.83	$0.43	$0.35	$0.17	$0.17	$0.21
		Seine	$0.40	$0.42	$0.24	$0.25	$0.25	$0.24	$0.26	$0.44	$0.84	$0.42	$0.33	$0.15	$0.15	$0.23
		Troll	$0.56	$0.56	$0.36	$0.31	$0.45	$0.35	$0.32	$0.41	$0.99	$0.47	$0.42	$0.25	$0.25	$0.29
	PWS	Gillnet	$0.39	$0.44	$0.23	$0.22	$0.26	$0.23	$0.19	$0.40	$0.84	$0.39	$0.32	$0.12	$0.18	$0.20
		Seine	$0.39	$0.44	$0.22	$0.24	$0.26	$0.23	$0.22	$0.43	$0.85	$0.41	$0.33	$0.14	$0.18	$0.20
	Cook Inlet	Gillnet	$0.34	$0.38	$0.18	$0.18	$0.24	$0.20	$0.15	$0.23	$0.52	$0.36	$0.29	$0.13	$0.15	$0.13
		Seine	$0.34	$0.44	$0.15	$0.24	$0.26	$0.22	$0.17	$0.42	$0.78	$0.40	$0.30	$0.12	$0.15	$0.19
	Kodiak	Gillnet	$0.40	$0.42	$0.21	$0.23	$0.26	$0.22	$0.19	$0.42	$0.81	$0.37	$0.34	$0.14	$0.15	$0.16
		Seine	$0.34	$0.45	$0.21	$0.23	$0.26	$0.24	$0.20	$0.44	$0.81	$0.33	$0.34	$0.13	$0.15	$0.18
	Peninsula	Gillnet	$0.47	$0.44	$0.14	$0.32	$0.25	$0.22	$0.21	$0.42	$0.72	$0.34	$0.30	$0.12	$0.15	$0.16
		Seine	$0.26	$0.43	$0.15	$0.27	$0.25	$0.22	$0.21	$0.41	$0.78	$0.34	$0.30	$0.12	$0.15	$0.16
	Chignik	Seine	$0.40	$0.41	$0.21	$0.26	$0.22	$0.22	$0.19	$0.29	$0.63	$0.33	$0.27	$0.12	$0.15	$0.15
	Bristol Bay	Gillnet	$0.25	$0.30	$0.22	$0.20	$0.23	$0.22	$0.15	$0.22	$0.35	$0.18	$0.32	$0.16	$0.12	$0.14
	AYK	Gillnet	$0.08	$0.13	$0.11	$0.12	$0.10	$0.19	$0.12	$0.19	$0.19	$0.21	$0.12	$0.15	$0.07	$0.07
	Statewide	Hatchery				$0.23	$0.31	$0.28	$0.28	$0.31	$0.80	$0.58	$0.40	$0.19	$0.18	$0.20
Chum	Southeast	Gillnet	$0.67	$0.59	$0.50	$0.40	$0.47	$0.43	$0.41	$0.75	$1.15	$0.57	$0.53	$0.37	$0.40	$0.47
		Seine	$0.68	$0.51	$0.51	$0.35	$0.44	$0.46	$0.36	$0.66	$1.06	$0.46	$0.50	$0.32	$0.49	$0.51
		Troll	$0.85	$0.63	$0.78	$0.57	$0.77	$0.68	$0.71	$0.81	$1.93	$0.64	$0.65	$0.60	$0.51	$0.60
	PWS	Gillnet	$0.50	$0.50	$0.37	$0.27	$0.39	$0.44	$0.39	$0.44	$1.08	$0.44	$0.75	$0.68	$0.55	$0.70
		Seine	$0.50	$0.50	$0.37	$0.26	$0.27	$0.37	$0.33	$0.47	$1.06	$0.41	$0.69	$0.41	$0.55	$0.45
	Cook Inlet	Gillnet	$0.54	$0.65	$0.49	$0.37	$0.40	$0.45	$0.39	$0.39	$0.86	$0.40	$0.52	$0.30	$0.30	$0.38
		Seine	$0.54	$0.47	$0.42	$0.30	$0.24	$0.31	$0.27	$0.42	$0.88	$0.34	$0.58	$0.26	$0.25	$0.24
	Kodiak	Gillnet	$0.46	$0.48	$0.32	$0.31	$0.34	$0.35	$0.32	$0.39	$1.17	$0.39	$0.48	$0.28	$0.40	$0.33
		Seine	$0.51	$0.54	$0.35	$0.28	$0.34	$0.40	$0.33	$0.44	$1.13	$0.37	$0.51	$0.30	$0.40	$0.39
	Peninsula	Gillnet	$0.39	$0.45	$0.44	$0.33	$0.30	$0.31	$0.35	$0.40	$0.81	$0.41	$0.40	$0.25	$0.30	$0.33
		Seine	$0.33	$0.45	$0.45	$0.31	$0.29	$0.30	$0.35	$0.38	$0.77	$0.38	$0.34	$0.24	$0.30	$0.29
	Chignik	Seine	$0.47	$0.52	$0.44	$0.30	$0.34	$0.38	$0.39	$0.38	$0.96	$0.40	$0.39	$0.22	$0.30	$0.30
	Bristol Bay	Gillnet	$0.34	$0.41	$0.35	$0.32	$0.30	$0.32	$0.31	$0.30	$0.47	$0.26	$0.27	$0.23	$0.24	$0.27
	AYK	Gillnet	$0.29	$0.41	$0.42	$0.30	$0.31	$0.43	$0.36	$0.39	$0.59	$0.34	$0.29	$0.31	$0.27	$0.29

Note: "1992p" data are preliminary. These data were used for all graphs and analysis in this report. "1992f" data are final data received after completion of all graphs and analysis. Source: Alaska Commercial Fisheries Entry Commission.

Sockeye Salmon Harvest Volumes and Ex-Vessel Prices, Alaska and Canada, by Area and Gear Type, 1980-1992

Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
HARVEST VOLUME (000 lbs)														
Alaska														
Southeast	Gillnet	3,955	4,044	7,012	5,026	4,777	7,150	5,590	7,174	5,248	8,482	7,740	6,238	8,236
	Seine	3,043	2,484	2,842	4,438	2,521	4,212	3,591	1,891	3,528	5,076	5,698	6,001	7,799
	Troll	17	43	14	46	55	43	40	58	50	109	52	50	114
PWS	Gillnet	568	4,091	16,082	5,329	7,432	7,991	7,378	10,651	4,574	7,883	5,440	10,248	9,490
	Seine	864	924	522	281	984	761	503	1,018	152	65	147	113	202
Cook Inlet	Gillnet	9,513	9,577	23,129	32,692	12,699	22,911	27,777	63,857	45,381	33,205	23,192	12,399	60,147
	Seine	209	326	529	706	1,021	1,188	893	1,036	1,449	525	743	1,164	631
Kodiak	Gillnet	1,451	2,419	3,600	2,553	2,511	3,121	6,957	3,251	4,579	7,098	7,276	9,670	4,458
	Seine	2,067	5,018	3,625	4,533	8,504	5,613	11,576	8,013	10,904	18	20,031	19,486	19,222
Peninsula	Gillnet	11,337	16,090	13,866	16,917	15,716	17,996	16,873	12,232	13,126	16,163	19,158	19,064	27,994
	Seine	14,522	7,669	8,434	8,736	7,828	7,838	5,238	4,471	4,989	9,374	8,451	7,120	11,631
Chignik	Seine	5,795	13,486	11,342	11,927	18,536	5,450	11,255	14,000	5,690	7,923	13,776	12,913	8,293
Bristol Bay	Gillnet	132,984	158,894	96,655	211,796	139,425	136,230	95,817	95,779	87,680	163,890	192,754	149,547	185,205
AYK	Gillnet	294	758	692	609	533	150	1,016	1,278	1,119	597	1,364	1,406	1,360
Canada														
	All gears	17,035	46,297	66,453	31,583	28,389	69,597	67,974	33,146	26,330	75,801	81,863	55,556	45,415
	Gillnet	7,198	19,910	21,643	9,859	14,422	29,676	24,412	14,592	16,735	27,502	28,711	22,944	
	Seine	9,539	25,653	27,815	19,855	12,767	32,485	28,535	13,852	8,142	38,065	34,767	22,733	
	Troll	298	734	16,995	1,870	1,199	7,436	15,027	4,702	1,453	10,234	18,389	9,902	
AVERAGE PRICE ($US/lb)														
Alaska														
Southeast	Gillnet	$0.86	$1.29	$1.08	$0.83	$1.12	$1.33	$1.49	$1.79	$3.16	$1.66	$1.60	$1.00	$1.55
	Seine	$0.77	$1.29	$1.11	$0.83	$1.11	$1.40	$1.52	$1.78	$2.92	$1.64	$1.54	$0.89	$1.61
	Troll	$0.90	$1.23	$1.28	$0.94	$1.27	$1.36	$1.76	$1.95	$3.48	$1.94	$1.93	$1.52	$1.52
PWS	Gillnet	$0.85	$1.29	$0.92	$0.96	$1.06	$1.44	$1.51	$2.00	$3.07	$2.30	$2.24	$1.38	$2.10
	Seine	$0.85	$1.29	$1.14	$0.87	$0.87	$1.21	$1.38	$1.69	$2.62	$1.47	$1.80	$0.99	$2.10
Cook Inlet	Gillnet	$0.85	$1.20	$1.10	$0.74	$0.97	$1.25	$1.44	$1.55	$2.55	$1.72	$1.71	$1.06	$1.60
	Seine	$0.85	$1.05	$1.04	$0.73	$0.92	$1.08	$1.27	$1.62	$2.47	$1.73	$1.51	$0.91	$1.47
Kodiak	Gillnet	$0.80	$1.11	$0.92	$0.78	$1.04	$1.13	$1.43	$1.73	$2.71	$1.79	$1.50	$0.91	$1.40
	Seine	$0.80	$1.14	$0.86	$0.91	$1.04	$1.29	$1.42	$1.74	$2.70	$1.64	$1.55	$0.93	$1.40
Peninsula	Gillnet	$0.46	$0.91	$0.89	$0.83	$0.84	$1.04	$1.41	$1.63	$2.16	$1.51	$1.53	$0.91	$1.50
	Seine	$0.37	$0.88	$0.87	$0.86	$0.86	$1.18	$1.41	$1.66	$2.27	$1.50	$1.50	$0.83	$1.50
Chignik	Seine	$0.86	$1.26	$0.97	$0.88	$0.98	$1.36	$1.47	$1.83	$2.49	$1.65	$1.60	$0.84	$1.40
Bristol Bay	Gillnet	$0.57	$0.77	$0.69	$0.64	$0.66	$0.83	$1.42	$1.40	$2.10	$1.25	$1.09	$0.75	$0.90
AYK	Gillnet	$0.31	$0.57	$0.49	$0.51	$0.58	$0.60	$0.70	$1.34	$1.91	$1.28	$1.11	$0.67	$0.90
Canada														
	All gears	$0.92	$0.98	$0.96	$0.94	$1.25	$1.27	$1.52	$1.99	$2.98	$1.88	$1.68	$1.33	$1.98
	Gillnet								$1.91	$2.91	$1.81	$1.57	$1.23	
	Seine								$1.92	$3.00	$1.84	$1.59	$1.23	
	Troll								$2.41	$3.61	$2.25	$2.03	$1.78	

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska harvest volumes: "Alaska salmon harvest volumes by species and gear group"; Alaska harvest prices: "Alaska salmon harvest prices by species and gear group"; Canada data for all gears: "Canadian salmon landed volume, landed value, and average landed price, by species, 1980-1992"; Canada data by gear group for 1980-1986: "Canadian landing of salmon by species and gear, 1980-1990"; Canada data by gear group for 1987-1991: "Canadian Salmon Landed Volume, Landed Value, and Average Landed Price, by Species and Gear Type, 1987-1991." Because original data sources differ, there may be slight inconsistencies between Canada data for all gears and totals across gear groups. ISER file: SOCKEYE ANALYSIS.

Pink Salmon Harvest Volumes and Ex-Vessel Prices, by Area and Gear Type, Canada and Alaska

Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
HARVEST VOLUME (000 lbs)														
Alaska														
Southeast	Gillnet	5,920	7,377	2,960	5,581	7,141	8,734	7,140	6,781	4,583	15,284	6,894	4,168	7,566
	Seine	47,783	69,952	73,068	107,292	76,416	150,652	144,141	25,729	29,909	181,257	89,986	159,364	104,149
	Troll	931	2,279	1,442	1,440	1,775	2,716	562	1,597	1,524	5,676	2,174	1,048	1,906
PWS	Gillnet	1,432	2,678	844	2,106	6,361	2,201	412	3,359	6,953	2,527	7,898	932	2,568
	Seine	46,421	84,164	71,095	41,097	71,143	81,915	31,585	88,550	27,063	45,691	98,109	67,904	16,393
Cook Inlet	Gillnet	6,316	724	3,139	308	2,563	824	4,890	419	1,878	276	2,094	60	2,764
	Seine	2,747	11,947	1,724	2,728	2,386	4,211	4,756	666	2,693	3,939	978	1,903	612
Kodiak	Gillnet	5,326	6,412	4,889	2,274	5,641	3,045	7,890	2,161	8,235	651	1,966	3,988	2,141
	Seine	51,650	33,536	23,981	14,139	35,984	23,720	35,290	15,731	45,739	3	17,046	44,560	10,263
Peninsula	Gillnet	391	514	670	357	1,439	1,008	584	238	1,862	1,801	441	1,305	2,167
	Seine	34,195	18,690	25,008	10,313	48,440	17,021	13,276	3,999	24,067	25,595	10,730	32,024	32,090
Chignik	Seine	3,635	4,479	2,917	1,201	1,651	644	2,374	900	10,724	94	1,676	3,349	5,799
Bristol Bay	Gillnet	8,624	25	4,992	2	10,762	2	1,412	0	3,417	2	1,913	1	1,810
AYK	Gillnet	836	713	710	274	418	12	190	7	363	3	54	2	357
Statewide	Hatchery				2,403	2,083	5,639	3,190	14,098	1,631	46,593	28,463	18,235	12,816
Canada	All gears	30,243	84,333	8,768	87,165	26,585	83,113	65,047	59,350	71,026	68,351	57,848	77,381	32,408
	Gillnet	3,772	10,273	1,160	8,567	4,026	8,845	9,297	9,841	3,847	5,923	6,260	6,476	
	Seine	21,274	53,565	6,940	66,594	17,220	57,311	52,203	33,984	56,347	42,037	42,564	56,939	
	Troll	5,196	20,494	668	12,004	5,340	16,958	3,547	15,525	10,831	20,392	9,025	13,957	
AVERAGE PRICE ($US/lb)														
Alaska														
Southeast	Gillnet	$0.41	$0.43	$0.25	$0.24	$0.27	$0.26	$0.26	$0.45	$0.83	$0.43	$0.35	$0.17	$0.17
	Seine	$0.40	$0.42	$0.24	$0.25	$0.25	$0.24	$0.26	$0.44	$0.84	$0.42	$0.33	$0.15	$0.15
	Troll	$0.56	$0.56	$0.36	$0.31	$0.45	$0.35	$0.32	$0.41	$0.99	$0.47	$0.42	$0.25	$0.25
PWS	Gillnet	$0.39	$0.44	$0.23	$0.22	$0.26	$0.23	$0.19	$0.40	$0.84	$0.39	$0.32	$0.12	$0.18
	Seine	$0.39	$0.44	$0.22	$0.24	$0.26	$0.23	$0.22	$0.43	$0.85	$0.41	$0.33	$0.14	$0.18
Cook Inlet	Gillnet	$0.34	$0.38	$0.18	$0.18	$0.24	$0.20	$0.15	$0.23	$0.52	$0.36	$0.29	$0.13	$0.15
	Seine	$0.34	$0.44	$0.15	$0.24	$0.26	$0.22	$0.17	$0.42	$0.78	$0.40	$0.30	$0.12	$0.15
Kodiak	Gillnet	$0.40	$0.42	$0.21	$0.23	$0.26	$0.22	$0.19	$0.42	$0.81	$0.37	$0.34	$0.14	$0.15
	Seine	$0.34	$0.45	$0.21	$0.23	$0.26	$0.24	$0.20	$0.44	$0.81	$0.55	$0.34	$0.13	$0.15
Peninsula	Gillnet	$0.47	$0.44	$0.14	$0.32	$0.25	$0.22	$0.21	$0.42	$0.72	$0.34	$0.30	$0.12	$0.15
	Seine	$0.26	$0.43	$0.15	$0.27	$0.25	$0.22	$0.21	$0.41	$0.78	$0.34	$0.30	$0.12	$0.15
Chignik	Seine	$0.40	$0.41	$0.21	$0.26	$0.22	$0.22	$0.19	$0.29	$0.63	$0.33	$0.27	$0.12	$0.15
Bristol Bay	Gillnet	$0.25	$0.30	$0.22	$0.20	$0.23	$0.22	$0.15	$0.22	$0.35	$0.18	$0.32	$0.16	$0.12
AYK	Gillnet	$0.08	$0.13	$0.11	$0.12	$0.10	$0.19	$0.12	$0.19	$0.19	$0.21	$0.12	$0.15	$0.07
Statewide	Hatchery				$0.23	$0.31	$0.28	$0.28	$0.31	$0.80	$0.58	$0.40	$0.19	$0.18
Canada	All gears	$0.43	$0.45	$0.29	$0.25	$0.31	$0.34	$0.28	$0.42	$0.56	$0.41	$0.40	$0.34	$0.27
	Gillnet								$0.30	$0.42	$0.35	$0.36	$0.29	
	Seine								$0.32	$0.48	$0.36	$0.38	$0.32	
	Troll								$0.74	$1.06	$0.54	$0.53	$0.42	

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska harvest volumes: "Alaska salmon harvest volumes by species and gear group"; Alaska harvest prices: "Alaska salmon harvest prices by species and gear group"; Canada data for all gears: "Canadian salmon landed volume, landed value, and average landed price, by species, 1980-1992"; Canada data by gear group for 1980-1986: "Canadian landing of salmon by species and gear, 1980-1990"; Canada data by gear group for 1987-1991: "Canadian Salmon Landed Volume, Landed Value, and Average Landed Price, by Species and Gear Type, 1987-1991." Because original data sources differ, there may be slight inconsistencies between Canada data for all gears and totals across gear groups. ISER file: PINK ANALYSIS.

Coho Salmon Harvests and Prices, Alaska and Canada, by Area and Gear Type, 1980-1992

Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
HARVEST VOLUME (000 lbs)														
Alaska														
Southeast	Gillnet	2,121	2,382	3,140	2581	3,705	5,072	4,870	2,668	3,711	3,666	4,611	6,649	9,004
	Seine	1,273	1,718	2,987	2389	3,009	3,276	4,393	905	1,201	2,316	2589	2,718	3,832
	Troll	4,611	6,156	9,150	8,542	9,169	11,618	15,243	6,746	3,831	9,149	12,159	10,950	13,585
PWS	Gillnet	3,289	4,082	5,794	3,431	5,860	10,279	3,966	1,204	4,342	2,470	3,836	5,124	4,627
	Seine	16	25	198	76	158	136	99	203	227	556	777	109	309
Cook Inlet	Gillnet	1,630	3,221	5,704	3573	3,213	4,676	4,878	2,970	3,981	2,272	3,244	2,634	3,025
	Seine	40	28	380	64	117	61	130	91	42	12	5	45	24
Kodiak	Gillnet	99	138	292	222	220	303	272	230	329	14	457	544	447
	Seine	961	874	2,844	1,211	1,905	2,216	1,193	1,392	2,240	10	1,960	1,816	1,845
Peninsula	Gillnet	1,191	1,335	2,304	759	2,130	1,524	1,366	1,693	2,685	2,808	2,172	2,318	2,473
	Seine	1,394	1,039	1,534	779	1,859	1,198	1,473	1,326	2,871	2,048	1,571	1,357	1,843
Chignik	Seine	771	603	2,374	488	950	1,710	867	1,190	2,889	559	934	1,183	2,363
Bristol Bay	Gillnet	2,479	1,997	4,598	826	4,355	1,324	1,224	456	1,511	1,783	773	817	1,342
AYK	Gillnet	2,530	2,181	5,049	1,783	7,497	3,441	5,254	3,633	5,384	4,950	3,608	4,793	6,571
Canada														
	All gears	19,897	16,565	20,496	23,362	22,242	19,791	29,184	18,552	15,602	19,295	23,100	22,266	16,094
	Gillnet	7,198	19,910	21,643	9,859	14,422	29,676	24,412	838	919	1,514	1,488	1,353	
	Seine	9,539	25,653	27,815	19,855	12,767	32,485	28,536	2,171	1,367	2,633	2,226	1,742	
	Troll	298	734	16,995	1,370	1,199	7,436	15,027	15,542	13,316	15,147	19,486	19,067	
AVERAGE PRICE ($US/lb)														
Alaska														
Southeast	Gillnet	$0.86	$0.84	$0.70	$0.54	$0.95	$0.75	$0.86	$1.33	$2.38	$0.73	$0.90	$0.84	$0.85
	Seine	$0.70	$0.86	$0.84	$0.38	$0.93	$0.75	$0.75	$1.15	$1.97	$0.66	$0.74	$0.58	$0.70
	Troll	$1.22	$1.33	$1.39	$0.84	$1.59	$1.32	$1.25	$1.71	$3.14	$1.15	$1.49	$1.26	$1.24
PWS	Gillnet	$0.95	$0.86	$0.83	$0.64	$1.05	$0.90	$0.92	$0.99	$2.01	$0.66	$0.98	$0.74	$0.90
	Seine	$0.39	$0.90	$0.79	$0.55	$0.83	$0.44	$0.54	$0.77	$1.81	$0.58	$0.88	$0.59	$0.90
Cook Inlet	Gillnet	$0.58	$0.83	$0.72	$0.45	$0.65	$0.70	$0.64	$0.77	$1.38	$0.69	$0.77	$0.55	$0.65
	Seine	$0.58	$0.75	$0.67	$0.43	$0.78	$0.42	$0.67	$0.98	$1.66	$0.52	$0.50	$0.50	$0.43
Kodiak	Gillnet	$0.55	$0.60	$0.46	$0.39	$0.85	$0.70	$0.58	$0.83	$1.26	$0.52	$0.71	$0.46	$0.60
	Seine	$0.69	$0.82	$0.79	$0.50	$0.85	$0.80	$0.68	$0.84	$1.28	$0.84	$0.75	$0.56	$0.60
Peninsula	Gillnet	$0.48	$0.73	$0.72	$0.49	$0.72	$0.85	$0.71	$0.97	$1.30	$0.78	$0.82	$0.54	$0.65
	Seine	$0.49	$0.71	$0.72	$0.58	$0.56	$0.69	$0.71	$0.85	$1.16	$0.74	$0.73	$0.44	$0.65
Chignik	Seine	$0.62	$0.79	$0.75	$0.43	$0.75	$0.80	$0.77	$0.88	$1.45	$0.78	$0.75	$0.55	$0.65
Bristol Bay	Gillnet	$0.57	$0.70	$0.75	$0.45	$0.77	$0.70	$0.67	$0.72	$1.41	$0.71	$0.74	$0.60	$0.50
AYK	Gillnet	$0.64	$0.62	$0.54	$0.40	$0.62	$0.51	$0.60	$0.78	$1.34	$0.63	$0.66	$0.45	$0.43
Canada														
	All gears	$0.99	$1.11	$1.03	$0.79	$1.23	$0.98	$0.97	$1.37	$1.97	$0.85	$1.03	$0.99	$1.05
	Gillnet								$0.97	$1.30	$0.71	$0.77	$0.61	
	Seine								$0.90	$1.25	$0.73	$0.72	$0.58	
	Troll								$1.46	$2.08	$0.88	$1.09	$1.06	

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska harvest volumes: "Alaska salmon harvest volumes by species and gear group"; Alaska harvest prices: "Alaska salmon harvest prices by species and gear group"; Canada data for all gears: "Canadian salmon landed volume, landed value, and average landed price, by species, 1980-1992"; Canada data by gear group for 1980-1986: "Canadian landing of salmon by species and gear, 1980-1990"; Canada data by gear group for 1987-1991: "Canadian Salmon Landed Volume, Landed Value, and Average Landed Price, by Species and Gear Type, 1987-1991." Because original data sources differ, there may be slight inconsistencies between Canada data for all gears and totals across gear groups. ISER file: COHO ANALYSIS.

Chinook Salmon Harvests and Prices, Alaska and Canada, by Area and Gear Type, 1980-1992

Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
HARVEST VOLUME (000 lbs)														
Alaska														
Southeast	Gillnet	118	108	164	60	102	119	113	131	155	132	208	332	216
	Seine	195	166	477	218	391	382	250	87	232	262	192	246	415
	Troll	4,824	4,106	3,999	4,345	3,842	3,495	4,095	4,660	3,685	4,561	4,897	4,547	2,899
PWS	Gillnet	248	531	1,246	1,381	1,154	1,187	1,080	1,136	833	830	568	795	1,006
	Seine	2	4	2	6	1	11	7	6	4	11	1	2	1
Cook Inlet	Gillnet	369	295	621	628	308	694	1,033	1,159	882	663	383	304	449
	Seine	1	4	2	1	1	1	1	5	7	7	3	4	6
Kodiak	Gillnet	4	5	4	8	14	8	5	3	20	2	15	15	42
	Seine	6	22	12	41	85	88	62	56	276	0	215	255	305
Peninsula	Gillnet	344	410	649	646	494	465	218	289	319	214	279	192	246
	Seine	77	129	136	334	134	124	82	146	157	108	189	86	105
Chignik	Seine	32	51	60	96	100	45	67	49	129	77	134	70	138
Bristol Bay	Gillnet	1,884	4,435	5,103	4,149	2,036	2,191	1,746	1,515	843	763	577	471	1,149
AYK	Gillnet	4,384	5,460	4,401	3,763	3,826	4,591	2,904	3,975	3,094	3,219	3,301	2,918	3,528
Canada														
	All gears	14,418	13,042	15,635	11,856	13,788	12,057	11,038	11,572	13,053	11,539	11,526	11,243	11,684
	Gillnet	1,870	1,239	1,918	1,171	1,142	1,889	2,163	596	1,070	1,739	1,392	1,963	
	Seine	2,760	3,153	2,745	2,985	1,858	3,108	3,915	783	657	1,227	886	900	
	Troll	15,267	12,174	15,833	18,907	19,242	14,793	23,106	10,193	11,328	8,574	9,248	8,289	
AVERAGE PRICE ($US/lb)														
Alaska														
Southeast	Gillnet	$1.07	$1.35	$1.37	$0.74	$1.06	$1.08	$1.05	$1.51	$1.90	$1.32	$1.10	$1.06	$0.94
	Seine	$1.52	$1.97	$2.22	$1.08	$2.22	$1.75	$1.39	$1.77	$3.01	$1.05	$0.97	$0.82	$1.09
	Troll	$2.07	$2.40	$2.77	$1.88	$2.83	$2.39	$2.07	$2.78	$3.91	$2.13	$2.36	$2.40	$2.28
PWS	Gillnet	$1.48	$1.67	$1.41	$1.05	$1.42	$1.66	$1.46	$2.20	$3.28	$2.28	$2.33	$1.74	$2.25
	Seine	$1.48	$1.58	$1.38	$0.96	$1.14	$0.25	$0.88	$1.24	$2.47	$1.17	$1.48	$0.97	$2.25
Cook Inlet	Gillnet	$1.15	$1.46	$1.27	$0.98	$1.06	$1.24	$1.04	$1.34	$1.65	$1.35	$1.19	$1.21	$1.25
	Seine	$1.15	$1.25	$1.25	$0.79	$0.76	$1.24	$0.27	$0.89	$1.41	$1.15	$1.02	$0.97	$0.96
Kodiak	Gillnet	$1.01	$0.95	$1.12	$0.55	$0.98	$1.23	$1.14	$1.27	$1.50	$1.17	$1.07	$0.72	$1.25
	Seine	$1.01	$1.19	$0.96	$0.86	$0.98	$1.43	$1.10	$1.17	$1.45	$0.00	$1.06	$0.72	$1.25
Peninsula	Gillnet	$1.21	$1.22	$1.11	$0.76	$1.05	$0.95	$0.78	$1.22	$1.36	$1.10	$1.10	$0.81	$1.00
	Seine	$1.21	$1.38	$1.22	$0.72	$1.04	$0.99	$0.75	$1.20	$1.34	$1.20	$1.23	$0.74	$1.00
Chignik	Seine	$1.33	$1.43	$1.11	$0.81	$1.11	$1.36	$1.16	$1.50	$1.99	$1.05	$1.08	$0.77	$1.00
Bristol Bay	Gillnet	$1.00	$1.21	$1.23	$0.70	$1.03	$0.96	$1.01	$1.17	$1.08	$0.82	$0.91	$0.67	$1.03
AYK	Gillnet	$0.94	$1.08	$1.10	$1.05	$1.29	$1.27	$1.36	$1.74	$2.28	$2.00	$1.81	$2.69	$3.13
Canada														
	All gears	$1.44	$1.65	$1.62	$1.21	$2.09	$1.55	$1.28	$1.99	$2.73	$1.47	$1.52	$1.52	$1.72
	Gillnet								$1.31	$2.01	$1.12	$1.12	$1.15	
	Seine								$1.31	$1.66	$1.07	$1.10	$1.01	
	Troll								$2.08	$2.86	$1.60	$1.62	$1.69	

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska harvest volumes: "Alaska salmon harvest volumes by species and gear group"; Alaska harvest prices: "Alaska salmon harvest prices by species and gear group"; Canada data for all gears: "Canadian salmon landed volume, landed value, and average landed price, by species, 1980-1992"; Canada data by gear group for 1980-1986: "Canadian landing of salmon by species and gear, 1980-1990"; Canada data by gear group for 1987-1991: "Canadian Salmon Landed Volume, Landed Value, and Average Landed Price, by Species and Gear Type, 1987-1991." Because original data sources differ, there may be slight inconsistencies between Canada data for all gears and totals across gear groups. ISER file: CHINOOK ANALYSIS.

Chum Salmon Harvest Volumes and Ex-Vessel Prices, by Area and Gear Type, Canada and Alaska

Area	Gear	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
HARVEST VOLUME (000 lbs)														
Alaska														
Southeast	Gillnet	6,403	3,283	5,168	5,316	11,808	12,032	8,787	8,162	12,663	6,363	7,101	7,131	8,308
	Seine	9,905	4,979	8,086	4,996	22,174	15,888	19,059	10,663	14,125	10,236	9,800	16,282	27,423
	Troll	92	72	47	149	208	386	391	87	617	513	492	180	548
PWS	Gillnet	606	1,220	2,348	2,418	3,028	2,185	2,017	2,904	5,737	1,769	6,112	2,798	1,943
	Seine	3,394	15,142	9,775	7,236	7,866	8,655	12,048	12,253	9,745	5,823	2,561	268	228
Cook Inlet	Gillnet	2,859	6,435	11,860	8,672	5,195	5,877	8,437	2,494	5,480	908	2,507	1,854	1,866
	Seine	565	2,698	1,738	1,730	794	221	650	1,304	3,024	84	48	171	185
Kodiak	Gillnet	470	933	1,355	919	601	688	1,148	961	1,499	174	681	1,223	1,039
	Seine	7,778	10,177	9,730	8,486	4,947	2,711	7,303	4,367	11,194	0	3,761	5,962	3,889
Peninsula	Gillnet	3,335	4,026	5,861	3,031	5,396	3,078	2,546	3,580	4,620	2,946	2,547	3,580	2,331
	Seine	10,336	13,870	13,361	11,304	12,371	11,042	12,136	8,754	12,637	4,899	6,435	7,801	8,790
Chignik	Seine	1,765	4,503	3,231	1,205	486	145	1,304	944	2,192	12	1,757	1,674	1,592
Bristol Bay	Gillnet	7,812	9,937	6,131	10,233	12,600	6,835	7,978	9,887	10,190	7,869	6,556	7,932	3,158
AYK	Gillnet	16,442	22,239	12,475	13,253	12,440	12,376	11,604	8,730	22,877	16,772	8,769	9,720	8,458
Canada														
	All gears	37,057	13,574	33,270	10,800	19,848	52,130	55,549	24,251	66,793	20,551	37,877	22,487	38,581
	Gillnet	16,640	7,015	12,180	5,677	6,587	13,693	20,318	9,338	19,766	8,718	13,336	10,011	
	Seine	19,780	6,276	20,165	4,740	12352	34,764	31,199	14,139	44,573	10,684	23,810	11,467	
	Troll	637	282	924	326	908	3,673	4,032	775	2,453	1,149	730	1,088	
AVERAGE PRICE ($US/lb)														
Alaska														
Southeast	Gillnet	$0.67	$0.59	$0.50	$0.40	$0.47	$0.43	$0.41	$0.75	$1.15	$0.57	$0.53	$0.37	$0.40
	Seine	$0.68	$0.51	$0.51	$0.35	$0.44	$0.46	$0.36	$0.66	$1.06	$0.46	$0.50	$0.32	$0.49
	Troll	$0.85	$0.63	$0.78	$0.57	$0.77	$0.68	$0.71	$0.81	$1.93	$0.64	$0.65	$0.60	$0.51
PWS	Gillnet	$0.50	$0.50	$0.37	$0.27	$0.39	$0.44	$0.39	$0.44	$1.08	$0.44	$0.75	$0.68	$0.55
	Seine	$0.50	$0.50	$0.37	$0.26	$0.27	$0.37	$0.33	$0.47	$1.06	$0.41	$0.69	$0.41	$0.55
Cook Inlet	Gillnet	$0.54	$0.65	$0.49	$0.37	$0.40	$0.45	$0.39	$0.39	$0.86	$0.40	$0.52	$0.30	$0.30
	Seine	$0.54	$0.47	$0.42	$0.30	$0.24	$0.31	$0.27	$0.42	$0.88	$0.34	$0.58	$0.26	$0.25
Kodiak	Gillnet	$0.46	$0.48	$0.32	$0.31	$0.34	$0.35	$0.32	$0.39	$1.17	$0.39	$0.48	$0.28	$0.40
	Seine	$0.51	$0.54	$0.35	$0.28	$0.34	$0.40	$0.33	$0.44	$1.13	$0.37	$0.51	$0.30	$0.40
Peninsula	Gillnet	$0.39	$0.45	$0.44	$0.33	$0.30	$0.31	$0.35	$0.40	$0.81	$0.41	$0.40	$0.25	$0.30
	Seine	$0.33	$0.45	$0.45	$0.31	$0.29	$0.30	$0.35	$0.38	$0.77	$0.38	$0.34	$0.24	$0.30
Chignik	Seine	$0.47	$0.52	$0.44	$0.30	$0.34	$0.38	$0.39	$0.38	$0.96	$0.40	$0.39	$0.22	$0.30
Bristol Bay	Gillnet	$0.34	$0.41	$0.35	$0.32	$0.30	$0.32	$0.31	$0.30	$0.47	$0.26	$0.27	$0.23	$0.24
AYK	Gillnet	$0.29	$0.41	$0.42	$0.30	$0.31	$0.43	$0.36	$0.39	$0.59	$0.34	$0.29	$0.31	$0.27
Canada														
	All gears	$0.83	$0.60	$0.62	$0.57	$0.58	$0.49	$0.49	$0.83	$1.03	$0.57	$0.61	$0.50	$0.54
	Gillnet								$0.90	$0.98	$0.58	$0.60	$0.49	
	Seine								$0.78	$1.02	$0.55	$0.62	$0.49	
	Troll								$1.07	$1.54	$0.61	$0.74	$0.71	

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska harvest volumes: "Alaska salmon harvest volumes by species and gear group"; Alaska harvest prices: "Alaska salmon harvest prices by species and gear group"; Canada data for all gears: "Canadian salmon landed volume, landed value, and average landed price, by species, 1980-1992"; Canada data by gear group for 1980-1986: "Canadian landing of salmon by species and gear, 1980-1990"; Canada data by gear group for 1987-1991: "Canadian Salmon Landed Volume, Landed Value, and Average Landed Price, by Species and Gear Type, 1987-1991." Because original data sources differ, there may be slight inconsistencies between Canada data for all gears and totals across gear groups. ISER file: SOCKEYE ANALYSIS.

Sockeye Salmon Production and Wholesale Prices, Alaska and Canada, by Product

Area	Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
PRODUCTION (pounds)										
ALASKA										
Statewide	Canned	48,456,526	21,409,269	17,931,870	32,886,274	10,321,605	36,027,861	34,921,626	40,405,417	41,725,144
	Fresh	4,102,811	4,934,939	1,540,046	2,125,193	2,139,701	1,412,404	2,436,017	7,014,188	3,407,783
	Frozen	108,600,895	141,360,750	117,338,168	123,557,113	114,627,817	163,985,072	156,140,089	142,642,669	202,419,651
	Other	998,639	2,575,938	1,309,545	531,795	553,201	29,376	1,151,461	394,178	409,926
	Total	162,158,871	170,280,896	138,119,629	159,100,375	127,642,324	201,454,713	194,649,133	190,456,452	247,962,504
Bristol Bay	Canned							17,645,892	20,475,984	20,794,899
	Fresh							1,367,527	2,529,136	472,648
	Frozen							96,504,965	78,658,400	103,651,825
	Other							1,049,105	32,238	13,885
Cook Inlet	Canned							541,212	905,867	2,641,169
	Fresh							497,283	1,562,619	1,674,213
	Frozen							20,513,152	11,140,605	40,270,844
	Other							16,471	73,179	88,119
PWS	Canned							1,804,014	543,159	204,256
	Fresh							685,520	1,799,568	986,519
	Frozen							4,666,024	3,396,924	7,308,509
	Other									
Southeast	Canned							1,448,861	2,098,935	1,693,190
	Fresh							159,377	966,346	199,443
	Frozen							7,681,711	6,080,858	9,677,171
	Other							53,823	147,349	193,134
BRITISH COLUMBIA										
	Canned	11,078,304	28,011,792	28,767,360	14,860,656	9,922,320	30,452,592	35,125,968	20,673,600	15,062,400
	Fresh	1,554,243	1,582,903	1,494,719	1,089,072	879,635	2,142,871	4,157,876		
	Frozen	7,879,240	20,372,709	20,015,563	10,623,967	8,492,119	23,335,691	22,211,345		
WHOLESALE PRICE ($US/lb)										
ALASKA										
Statewide	Canned	$2.32	$2.62	$3.65	$3.62	$5.77	$4.16	$3.38	$3.05	$3.29
	Fresh	$1.93	$1.89	$2.44	$3.09	$3.51	$2.36	$2.66	$2.47	$2.85
	Frozen	$1.82	$2.04	$2.55	$2.84	$4.14	$2.77	$2.45	$1.88	$2.68
	Other	$1.77	$2.36	$2.03	$2.59	$4.20	$8.47	$2.57	$4.42	$5.08
Bristol Bay	Canned							$3.38	$2.83	$3.81
	Fresh							$1.81	$2.17	$1.82
	Frozen							$2.20	$1.73	$2.41
	Other							$2.31	$3.87	$3.65
Cook Inlet	Canned							$2.95		$3.60
	Fresh							$2.95	$2.93	$2.59
	Frozen							$2.71	$2.06	$3.09
	Other							$4.53	$3.01	$5.01
PWS	Canned							$4.12	$3.79	$3.99
	Fresh							$3.35	$2.99	$3.72
	Frozen							$3.33	$2.27	$3.31
	Other									
Southeast	Canned							$4.17	$.75	$1.82
	Fresh							$3.13	$1.58	$2.93
	Frozen							$2.88	$2.33	$3.28
	Other							$7.11	$5.17	$5.65
BRITISH COLUMBIA										
	Canned	$3.20	$3.08	$3.54	$4.18	$5.66	$4.77	$4.22		
	Fresh	$2.13	$2.28	$2.65	$3.10	$4.38	$2.92	$2.58		
	Frozen	$2.52	$2.50	$2.82	$3.56	$5.26	$3.46	$3.14		

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska statewide production volumes and wholesale prices: Alaska Salmon Production Volume, by Species and Product, 1984-1992; British Columbia production volumes and wholesale prices: British Columbia Sockeye Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992. Alaska data for Bristol Bay, Cook Inlet, PWS, and Southeast are unpublished data provided by the Alaska Department of Fish and Game. ISER file: SOCKEYE WHOLESALE ANALYSIS.

Pink Salmon Production and Wholesale Prices, Alaska and Canada, by Product

Area	Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
PRODUCTION (pounds)										
ALASKA										
Statewide	Canned	127,720,943	120,791,750	106,695,560	65,305,200	56,967,223	137,484,253	118,109,641	107,816,063	88,155,163
	Fresh	2,720,013	3,427,069	1,475,116	842,322	1,127,378	12,520,732	2,080,269	15,515,987	4,766,168
	Frozen	35,326,356	52,849,903	37,579,303	34,291,237	43,074,562	33,646,709	32,648,944	42,269,103	39,827,451
	Other	7,569	1,358,485		5,706	3,269	1,298	2,489	767,777	130,764
	Total	165,774,881	178,427,207	145,749,979	100,444,465	101,172,432	183,652,992	152,835,343	166,368,930	132,879,546
Bristol Bay	Canned									
	Fresh									
	Frozen								696,700	1,151,677
	Other									
Cook Inlet	Canned								1,460,004	2,729,247
	Fresh								96,303	450,971
	Frozen								4,970,001	2,323,576
	Other								104,339	
PWS	Canned								19,730,818	5,035,860
	Fresh								4,738,751	1,682,684
	Frozen								8,745,802	5,263,341
	Other									
Southeast	Canned								46,208,006	58,526,661
	Fresh								10,680,381	2,609,474
	Frozen								16,712,787	6,819,756
	Other									6,404
BRITISH COLUMBIA										
	Canned	16,246,752	48,118,896	43,237,536	28,921,872	35,247,792	44,881,584	37,310,784	49,123,200	18,580,800
	Frozen	365,964	1,770,294	606,265	1,604,949	1,214,735	1,966,503	1,358,034		
	Fresh	3,849,232	13,551,676	3,580,270	12,140,732	9,825,902	14,773,025	7,039,288		
WHOLESALE PRICE ($US/lb)										
ALASKA										
Statewide	Canned	$1.39	$1.19	$1.34	$1.97	$2.89	$2.05	$1.73	$1.50	$1.53
	Fresh	$.54	$.86	$.57	$1.07	$1.66	$.51	$.73	$.46	$.60
	Frozen	$.70	$.71	$.73	$1.14	$1.74	$.87	$.79	$.70	$.53
	Other	$.98	$1.95		$5.68	$6.06	$4.17	$2.93	$3.35	$1.82
Bristol Bay	Canned									$0.86
	Fresh									
	Frozen								$0.65	$0.60
	Other									
Cook Inlet	Canned								$6.77	$1.65
	Fresh								$0.76	$1.25
	Frozen								$0.71	$0.68
	Other								$0.96	
PWS	Canned								$1.31	$1.57
	Fresh								$0.66	$0.78
	Frozen								$0.69	$0.82
	Other									
Southeast	Canned								$1.63	$1.50
	Fresh								$0.37	$0.37
	Frozen								$0.76	$0.76
	Other									$1.51
BRITISH COLUMBIA										
	Canned	$1.81	$1.70	$1.67	$2.01	$3.06	$2.58	$2.14		
	Fresh	$0.84	$0.91	$0.89	$1.30	$1.39	$1.03	$1.10		
	Frozen	$1.12	$1.03	$1.02	$1.46	$2.03	$1.20	$1.11		

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska statewide production volumes and wholesale prices: Alaska Salmon Production Volume, by Species and Product, 1984-1992; British Columbia production volumes and wholesale prices: British Columbia Sockeye Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992. Alaska data for Bristol Bay, Cook Inlet, PWS, and Southeast are unpublished data provided by the Alaska Department of Fish and Game. ISER file: PINK WHOLESALE ANALYSIS.

Coho Salmon Production and Wholesale Prices, Alaska and Canada, by Product

Area	Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
PRODUCTION (pounds)										
ALASKA										
Statewide	Canned	48,456,526	21,409,269	17,931,870	32,886,274	10,321,605	36,027,861	34,921,626	40,405,417	41,725,144
	Fresh	4,102,811	4,934,939	1,540,046	2,125,193	2,139,701	1,412,404	2,436,017	7,014,188	3,407,783
	Frozen	108,600,895	141,360,750	117,338,168	123,557,113	114,627,817	163,985,072	156,140,089	142,642,669	202,419,651
	Other	998,639	2,575,938	1,309,545	531,795	553,201	29,376	1,151,401	394,178	409,926
	Total	162,158,871	170,280,896	138,119,629	159,100,375	127,642,324	201,454,713	194,649,133	190,456,452	247,962,504
Bristol Bay	Canned								24,004	
	Fresh									61,003
	Frozen								717,488	3,984,804
	Other									
Cook Inlet	Canned								12,576	
	Fresh								227,015	371,035
	Frozen								2,870,974	3,425,772
	Other								15,107	12,904
PWS	Canned								90,404	
	Fresh								869,119	926,195
	Frozen								2,257,625	2,943,217
	Other								9,151	
Southeast	Canned								211,944	175,691
	Fresh								1,097,944	3,144,627
	Frozen								15,937,893	18,628,335
	Other								455,714	276,383
BRITISH COLUMBIA										
	Canned	1,239,936	1,898,832	3,954,000	1,418,208	1,138,320	3,198,672	2,547,840	1,824,000	1,113,600
	Frozen	1,274,259	1,130,960	2,228,851	2,147,280	1,283,077	1,585,107	2,193,577		
	Fresh	15,915,007	12,405,284	15,105,919	12,438,353	9,722,286	10,950,248	14,248,330		
WHOLESALE PRICE ($US/lb)										
ALASKA										
Statewide	Canned	$2.32	$2.62	$3.65	$3.62	$5.77	$4.16	$3.38	$3.05	$3.29
	Fresh	$1.93	$1.89	$2.44	$3.09	$3.51	$2.36	$2.66	$2.47	$2.85
	Frozen	$1.82	$2.04	$2.55	$2.84	$4.14	$2.77	$2.45	$1.88	$2.68
	Other	$1.77	$2.36	$2.03	$2.59	$4.20	$8.47	$2.57	$4.42	$5.08
Bristol Bay	Canned								$2.45	
	Fresh									$1.10
	Frozen								$1.57	$1.39
	Other									
Cook Inlet	Canned								$6.72	
	Fresh								$1.53	$1.90
	Frozen								$1.73	$1.51
	Other								$1.86	$6.79
PWS	Canned								$1.93	
	Fresh								$1.85	$1.98
	Frozen								$1.80	$1.85
	Other								$3.10	
Southeast	Canned								$2.15	$2.16
	Fresh								$1.53	$1.91
	Frozen								$2.12	$2.34
	Other								$3.16	$3.21
BRITISH COLUMBIA										
	Canned	$2.36	$2.29	$2.66	$2.78	$3.57	$3.75	$2.98		
	Fresh	$2.19	$1.92	$1.87	$2.50	$2.53	$1.67	$1.66		
	Frozen	$2.49	$2.27	$2.18	$2.91	$3.92	$2.07	$2.38		

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska statewide production volumes and wholesale prices: Alaska Salmon Production Volume, by Species and Product, 1984-1992; British Columbia production volumes and wholesale prices: British Columbia Sockeye Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992. Alaska data for Bristol Bay, Cook Inlet, PWS, and Southeast are unpublished data provided by the Alaska Department of Fish and Game. ISER file: COHO WHOLESALE ANALYSIS.

Chinook Salmon Production and Wholesale Prices, Alaska and Canada, by Product

Area	Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
PRODUCTION (pounds)										
ALASKA										
Statewide	Canned	48,456,526	21,409,269	17,931,870	32,886,274	10,321,605	36,027,861	34,921,626	40,405,417	41,725,144
	Fresh	4,102,811	4,934,939	1,540,046	2,125,193	2,139,701	1,412,404	2,436,017	7,014,188	3,407,783
	Frozen	108,600,895	141,360,750	117,338,168	123,557,113	114,627,817	163,985,072	156,140,089	142,642,669	202,419,651
	Other	998,639	2,575,938	1,309,545	531,795	553,201	29,376	1,151,401	394,178	409,926
	Total	162,158,871	170,280,896	138,119,629	159,100,375	127,642,324	201,454,713	194,649,133	190,456,452	247,962,504
Bristol Bay	Canned								39,593	29,932
	Fresh								8,388	20,660
	Frozen								345,819	957,035
	Other									
Cook Inlet	Canned								198,986	248,921
	Fresh								511,186	1,073,284
	Frozen								5,954	
	Other									
PWS	Canned								235,937	175,687
	Fresh								205,238	481,173
	Frozen									
	Other								14,264	15,536
Southeast	Canned								909,465	869,731
	Fresh								4,048,115	2,391,560
	Frozen								16,234	3,889
	Other									
BRITISH COLUMBIA										
	Canned	130,032	228,912	308,016	176,016	148,416	425,040	336,192	177,600	110,400
	Frozen	1,439,604	800,270	1,082,459	1,093,482	864,203	577,605	1,298,509		
	Fresh	8,586,917	7,744,760	6,657,892	7,325,886	8,809,582	7,731,532	8,084,268		
WHOLESALE PRICE ($US/lb)										
ALASKA										
Statewide	Canned	$2.32	$2.62	$3.65	$3.62	$5.77	$4.16	$3.38	$3.05	$3.29
	Fresh	$1.93	$1.89	$2.44	$3.09	$3.51	$2.36	$2.66	$2.47	$2.85
	Frozen	$1.82	$2.04	$2.55	$2.84	$4.14	$2.77	$2.45	$1.88	$2.68
	Other	$1.77	$2.36	$2.03	$2.59	$4.20	$8.47	$2.57	$4.42	$5.08
Bristol Bay	Canned								$1.87	$2.10
	Fresh								$2.26	$3.21
	Frozen								$1.73	$2.13
	Other									
Cook Inlet	Canned								$2.46	$3.17
	Fresh								$5.28	$4.18
	Frozen								$6.96	$7.36
	Other									
PWS	Canned								$3.20	$4.68
	Fresh								$3.74	$4.80
	Frozen									
	Other								$2.75	$3.55
Southeast	Canned								$3.07	$3.27
	Fresh								$3.06	$3.15
	Frozen								$5.43	$4.00
	Other									
BRITISH COLUMBIA										
	Canned	$1.67	$1.61	$1.55	$1.61	$2.55	$2.54	$1.87		
	Fresh	$2.81	$2.62	$2.11	$3.08	$3.47	$2.31	$2.42		
	Frozen	$3.26	$3.25	$2.57	$3.28	$4.52	$2.93	$2.78		

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska statewide production volumes and wholesale prices: Alaska Salmon Production Volume, by Species and Product, 1984-1992; British Columbia production volumes and wholesale prices: British Columbia Sockeye Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992. Alaska data for Bristol Bay, Cook Inlet, PWS, and Southeast are unpublished data provided by the Alaska Department of Fish and Game. ISER file: CHINOOK WHOLESALE ANALYSIS.

Chum Salmon Production and Wholesale Prices, Alaska and Canada, by Product

Area	Product	1984	1985	1986	1987	1988	1989	1990	1991	1992
PRODUCTION (pounds)										
ALASKA										
Statewide	Canned	48,456,526	21,409,269	17,931,870	32,886,274	10,321,605	36,027,861	34,921,626	40,405,417	41,725,144
	Fresh	4,102,811	4,934,939	1,540,046	2,125,193	2,139,701	1,412,404	2,436,017	7,014,188	3,407,783
	Frozen	108,600,895	141,360,750	117,338,168	123,557,113	114,627,817	163,985,072	156,140,089	142,642,669	202,419,651
	Other	998,639	2,575,938	1,309,545	531,795	553,201	29,376	1,151,401	394,178	409,926
	Total	162,158,871	170,280,896	138,119,629	159,100,375	127,642,324	201,454,713	194,649,133	190,456,452	247,962,504
Bristol Bay	Canned								1,397,419	803,629
	Fresh								68,646	162,004
	Frozen								4,153,430	3,527,533
	Other									
Cook Inlet	Canned									
	Fresh								797,567	1,346,196
	Frozen								3,525,110	3,478,940
	Other								28,209	
PWS	Canned								230,561	
	Fresh								1,337,778	791,917
	Frozen								650,280	749,101
	Other									
Southeast	Canned								668,307	1,243,866
	Fresh								3,448,684	2,372,138
	Frozen								11,527,337	21,140,016
	Other								223,775	409,271
BRITISH COLUMBIA										
	Canned	3,291,792	12,915,360	12,685,536	3,019,632	10,348,128	4,825,200	5,565,456	1,502,400	4,924,800
	Frozen	562,173	601,856	2,760,159	2,261,920	3,465,631	2,727,090	4,885,394		
	Fresh	12,176,006	23,844,954	25,176,532	13,401,763	31,497,120	9,695,831	15,723,207		
WHOLESALE PRICE ($US/lb)										
ALASKA										
Statewide	Canned	$2.32	$2.62	$3.65	$3.62	$5.77	$4.16	$3.38	$3.05	$3.29
	Fresh	$1.93	$1.89	$2.44	$3.09	$3.51	$2.36	$2.66	$2.47	$2.85
	Frozen	$1.82	$2.04	$2.55	$2.84	$4.14	$2.77	$2.45	$1.88	$2.68
	Other	$1.77	$2.36	$2.03	$2.59	$4.20	$8.47	$2.57	$4.42	$5.08
Bristol Bay	Canned								$1.11	$1.51
	Fresh								$.93	$1.32
	Frozen								$1.84	$0.91
	Other									
Cook Inlet	Canned									
	Fresh								$1.45	$1.55
	Frozen								$1.29	$1.25
	Other								$1.71	
PWS	Canned								$1.16	
	Fresh								$5.39	$1.50
	Frozen								$3.42	$1.14
	Other									
Southeast	Canned								$1.11	$1.30
	Fresh								$1.05	$1.15
	Frozen								$1.02	$0.97
	Other								$2.47	$2.60
BRITISH COLUMBIA										
	Canned	$1.51	$1.29	$1.18	$1.58	$2.30	$2.20	$1.97		
	Fresh	$1.39	$1.04	$0.89	$1.61	$1.91	$1.30	$1.33		
	Frozen	$1.51	$1.31	$1.23	$1.83	$2.22	$1.45	$1.46		

Sources: Refer to preceding appendix tables for data sources, as follows: Alaska statewide production volumes and wholesale prices: Alaska Salmon Production Volume, by Species and Product, 1984-1992; British Columbia production volumes and wholesale prices: British Columbia Sockeye Salmon Landings and Wholesale Production, Value, and Prices, 1984-1992. Alaska data for Bristol Bay, Cook Inlet, PWS, and Southeast are unpublished data provided by the Alaska Department of Fish and Game. ISER file: CHUM WHOLESALE ANALYSIS.

Tokyo Wholesale List Prices for Canadian Frozen Salmon

Month	Sockeye Troll 4-6 High	Sockeye Troll 4-6 Low	Sockeye Troll 6-9 High	Sockeye Troll 6-9 Low	Sockeye Net 4-6 High	Sockeye Net 4-6 Low	Sockeye Net 6-9 High	Sockeye Net 6-9 Low	Coho Troll 4-6 High	Coho Troll 4-6 Low	King Troll 11-18 High	King Troll 11-18 Low	King Troll 7-11 High	King Troll 7-11 Low	Pink Troll High	Pink Troll Low
Jan-90	1300	1250	1400	1350												
Feb-90	1550	1500	1550	1500												
Mar-90	1550	1500	1550	1550												
Apr-90	-	1300	-	-	1280	1050		-		-						
May-90	-	1300	-	-	1200	1150	1350	1300	-	-						
Jun-90	-	1300	-	-	1200	1150	1150	1300	-	-						
Jul-90	1300							-		-						
Aug-90															550	530
Sep-90									1080	1050						
Oct-90									1080	1050						
Nov-90	1450	1400	1550	1500	1200	1100	1300	1200	1080	1050						
Dec-90	1450	1400	1550	1500	1200	1100	1300	1200	-	-					580	530
Jan-91	1450	1400	1550	1500	1200	1100	1300	1200	-	-						
Feb-91	1350	1300	1450	1400	1150	1100	1300	1200	1080	1050	1580	1500	1500	1350		
Mar-91	1350	1300	1450	1400	1150	1100	1300	1200	1050	1000	1450	1400	1300	1200	580	530
Apr-91	1350	1300	1450	1400	1150	1100	1300	1200	1050	1000	1450	1400	1300	1200		
May-91	1300	1250	1450	1400	1150	1100	1300	1200	1050	1000	1400	1350	1250	1150	580	530
Jun-91	1300	1250	1450	1400	1150	1100	1300	1200	1050	1000	1400	1350	1250	1150	580	530
Jul-91									1100	1000	1400	1350	1250	1150	650	550
Aug-91											1400	1350	1250	1150		
Sep-91	1150	1100	1350	1300	1100	1050	1300	1200	880	860	1400	1350	1250	1150		
Oct-91					1100	1050	1300	1200	880	860	1400	1350	1250	1150		
Nov-91	1350	1300	1500	1450	1250	1200	1350	1300	950	900	1350	1300	1250	1200		
Dec-91	1350	1300	1500	1450	1250	1200	1350	1300	950	900	1350	1300	1250	1200	550	450
Jan-92	1400	1350	1500	1450	1300	1250	1350	1300	950	900	1350	1200	1250	1200	500	400
Feb-92	1500	1400	1550	1500	1350	1300	1400	1350	950	900	1350	1300	1250	1200	500	400
Mar-92	1550	1500	1600	1550	1500	1400	1500	1450	1000	950	1450	1400	1350	1300	500	400
Apr-92	1550	1500	1600	1550	1500	1400	1500	1450	1000	950	1450	1400	1350	1300	500	400
May-92	1550	1500	1600	1550	1500	1450	1500	1450	1000	950	1450	1400	1350	1300	500	400
Jun-92	1550	1450	1600	1500	1500	1400	1500	1450	1000	950	1450	1400	1350	1300	500	400
Jul-92	1550	1450	1600	1500	1400	1350	1500	1450	1000	950	1300	1250	1300	1250	500	400
Aug-92									1000	950	1300	1250	1300	1200	500	400
Sep-92									1000	950	1300	1250	1300	1250	530	420
Oct-92									1000	950	1250	1200	1250	1150	530	420
Nov-92					1280	1210	1380	1350	1000	950	1250	1200	1250	1150	530	420
Dec-92	1300	1270	1450	1420	1200	1170	1350	1320	1000	950	1250	1200	1250	1200	530	420
Jan-93	1300	1200	1450	1400	1200	1150	1350	1300			1250	1200	1250	1200	530	420
Feb-93	1300	1250	1450	1400	1150	950	1350	1300			1250	1200	1250	1200	530	420
Mar-93	1300	1250	1450	1400	1150	950	1250	1200			1250	1200	1250	1200	530	420
Apr-93	1300	1250	1450	1400	1150	950	-	-			1250	1200	1250	1200	450	420
May-93	1300	1250	1450	1400	1150	950	-	-			1200	1000	1250	1200	-	-
Jun-93	1250	1200	1400	1350	950	900	950	900			1100	1000	1000	950	480	450
Jul-93	1200	1150	1350	1300	850	800	850				1000	800	900	800	480	450
Aug-93					850	800	850									
Sep-93	850		900		800		850									

Source: Alaska Governor's Office of International Trade, Weekly Fish Report. Various issues. Data for each month are the first reported prices of the month except for Feb. 13 and May 14, 1990. ISER file: TOKYO CANADIAN WHOLESALE PRICES.

Average Price of Japanese Imports of Fresh and Frozen Sockeye and Coho Salmon, June 1992-June 1993 (yen/kilogram)

		Jan-92	Feb-92	Mar-92	Apr-92	May-92	Jun-92	Jul-92	Aug-92	Sep-92	Oct-92	Nov-92	Dec-92	Jan-93	Feb-93	Mar-93	Apr-93	May-93	Jun-93
Fresh Coho	CANADA																	891	847
	CHILE													1063					
	USA													544					841
Fresh Sockeye	CANADA	1173	1189	1170	1084	1003	1125	2102	1043						1200				
	CHILE	0	1366	1304	1317		1278									926		1122	1013
	USA			1104	1385	1636	1631	1324	1280			3914							
Frozen Coho	CANADA													623	757	451	400	643	559
	CHILE													770	715	610	587	560	540
	RUSSIAN														315	326	0	0	0
	USA													480	575	574	491	473	543
Frozen Sockeye	CANADA	771	1006	670	1304	358	349	972	1112	1136	1110	965	836	617	776	642	608	632	667
	RUSSIAN	650	693	667	611	396	0	537	622	583	665	426	576	451	448	544	364	399	384
	USA	525	519	694	1057	1013	1054	862	833	816	685	646	608	602	643	612	582	588	604

ISER file: JAP IMPORTS--CAN/US PRICE COMP.

PRODUCTION AND UTILIZATION OF BC SALMON BY SPECIES 1989 - 1990

	UNIT	1989 QUANTITY	1989 VALUE[1] ($'000)	1989 AVERAGE[2] PRICE ($)	1990 QUANTITY	1990 VALUE[1] ($'000)	1990 AVERAGE[2] PRICE ($)
CHINOOK							
Canned	48-lb. cases	8,855	1,278	144.33	7,004	735	104.77
Fresh Round	000 kg	28	92	3.29	68	222	3.30
Fresh Dressed	000 kg	262	1,583	6.04	589	3,698	6.22
Frozen Round	000 kg	-	-	-	*	*	4.65
Frozen Dressed	000 kg	3,507	26,814	7.65	3,667	26,205	7.15
Frozen Steaks	000 kg	4	61	15.25	5	82	15.06
Salted	000 kg	15	132	8.80	*	*	12.10
Smoked	000 kg	184	3,901	21.20	335	4,434	13.27
Roe[3,4,5]	000 kg	8	86	10.75	13	141	10.59
Caviar[4,5]	000 kg	8	206	68.67	9	172	19.11
Portion Pack	000 kg	*	*	4.00	8	105	12.04
Minced	000 kg	-	-	-	*	*	8.05
TOTAL CHINOOK		-	34,153	-	-	35,794	-
SOCKEYE							
Canned	48-lb. cases	634,429	172,164	271.37	731,791	172,781	236.11
Fresh Round	000 kg	664	3,361	5.06	2,270	12,643	5.57
Fresh Dressed	000 kg	972	7,408	7.62	1,886	12,519	6.64
Frozen Round	000 kg	45	318	7.07	50	152	3.04
Frozen Dressed	000 kg	10,585	95,643	9.04	10,075	81,342	8.07
Frozen Steaks	000 kg	22	281	12.77	134	1,669	12.46
Salted	000 kg	402	4,282	10.65	473	5,604	11.84
Smoked	000 kg	398	9,921	24.93	467	10,815	23.15
Roe[4,5]	000 kg	212	1,958	9.24	348	2,605	7.49
Caviar[4,5]	000 kg	*	*	29.00	161	1,398	8.65
Portion Pack	000 kg	133	1,845	13.87	-[6]	3	26.68
Minced	000 kg	-	-	-	47	203	4.32
TOTAL SOCKEYE		-	297,181	-	-	301,734	-

	UNIT	1989 QUANTITY	1989 VALUE[1] ($'000)	1989 AVERAGE[2] PRICE ($)	1990 QUANTITY	1990 VALUE[1] ($'000)	1990 AVERAGE[2] PRICE ($)
COHO							
Canned	48-lb. cases	66,639	14,198	213.06	53,080	8,858	166.88
Fresh Round	000 kg	54	114	2.11	96	287	2.98
Fresh Dressed	000 kg	719	3,135	4.36	995	4,247	4.27
Frozen Round	000 kg	-	-	-	*	*	6.06
Frozen Dressed	000 kg	4,967	26,822	5.40	6,463	39,484	6.11
Frozen Steaks	000 kg	61	864	14.16	40	462	11.56
Salted	000 kg	*	*	9.00	*	*	10.82
Smoked	000 kg	42	865	20.60	25	416	15.67
Roe[3]	000 kg	19	189	9.95	18	96	5.40
Caviar[4,5]	000 kg	16	373	23.31	12	141	11.52
Portion Pack	000 kg	*	*	18.75	*	*	19.29
TOTAL COHO		-	46,560	-	-	53,991	-
PINK							
Canned	48-lb. cases	935,033	137,260	146.80	777,308	93,156	119.84
Fresh Round	000 kg	121	142	1.17	435	771	1.77
Fresh Dressed	000 kg	892	2,460	2.70	616	1,733	2.82
Frozen Round	000 kg	*	*	1.30	-	-	-
Frozen Dressed	000 kg	6,701	21,064	3.14	3,193	9,105	2.85
Frozen Steaks	000 kg	2	10	5.00	8	68	8.00
Salted	000 kg	*	*	3.22	-	-	-
Smoked	000 kg	24	446	18.58	28	310	10.90
Roe[4,5]	000 kg	149	1,007	6.76	158	968	6.12
Caviar[4,5]	000 kg	*	*	12.07	91	459	5.02
Portion Pack	000 kg	-	-	-	*	*	17.44
TOTAL PINK		-	162,389	-	-	106,570	-

	UNIT	1989 QUANTITY	1989 VALUE[1] ($'000)	1989 AVERAGE[2] PRICE ($)	1990 QUANTITY	1990 VALUE[1] ($'000)	1990 AVERAGE[2] PRICE ($)
CHUM							
Canned	48-lb. cases	100,525	12,592	125.26	115,947	12,768	110.12
Fresh Round	000 kg	477	1,084	2.27	1,059	1,940	1.83
Fresh Dressed	000 kg	1,237	4,195	3.39	2,216	7,557	3.41
Frozen Round	000 kg	-	-	-	*	*	2.36
Frozen Dressed	000 kg	4,398	16,636	3.78	7,132	26,732	3.75
Frozen Steaks	000 kg	164	1,230	7.50	133	856	6.43
Salted	000 kg	*	*	-	-	-	-
Smoked	000 kg	227	3,127	13.78	462	3,403	7.37
Roe[3]	000 kg	89	1,025	11.52	249	3,059	12.32
Caviar[4,5]	000 kg	105	2,766	26.34	307	6,317	20.51
Portion Pack	000 kg	*	*	12.30	*	*	12.08
Minced	000 kg	-	-	-	*	*	3.09
TOTAL CHUM		-	42,655	-	-	62,632	-
STEELHEAD							
Canned	48-lb. cases	235[6]	27	113.37	487	50	102.23
Fresh Round	000 kg	-	-	-	2	4	2.32
Fresh Dressed	000 kg	6	29	4.83	4	33	7.01
Frozen Round	000 kg	-	-	-	-	-	-
Frozen Dressed	000 kg	35	187	5.34	41	236	5.69
Frozen Steaks	000 kg	-	-	-	-	-	-
Smoked	000 kg	1	14	14.00	10	79	7.98
Roe	000 kg	*	*	11.11	-	-	-
Portion Pack	000 kg	*	*	10.00	-	-	-
TOTAL STEELHEAD		-	257	-	-	402	-

	UNIT	1989 QUANTITY	1989 VALUE[1] ($'000)	1989 AVERAGE[2] PRICE ($)	1990 QUANTITY	1990 VALUE[1] ($'000)	1990 AVERAGE[2] PRICE ($)
ALL SALMON[7]							
Canned	48-lb. cases	1,745,716	337,519	193.34	1,685,617	288,348	171.06
Fresh Round	000 kg	1,344	4,793	3.57	3,930	15,867	4.04
Fresh Dressed	000 kg	4,088	18,810	5.66	6,306	29,787	4.72
Frozen Round	000 kg	437	829	1.90	55	167	3.01
Frozen Dressed	000 kg	30,193	187,166	6.20	30,571	183,104	5.82
Frozen Steaks	000 kg	253	2,446	9.67	320	3,137	9.77
Salted	000 kg	427	4,452	10.43	504	5,977	11.85
Smoked	000 kg	876	18,274	20.86	1,328	19,457	14.64
Salmon Roe[3]	000 kg	486	4,365	8.98	786	6,869	8.74
Caviar[4,5]	000 kg	130	3,386	26.05	580	8,487	14.63
Portion Pack	000 kg	200	2,708	13.54	32	532	16.31
Minced	000 kg	-	-	-	72	300	4.16
Other[8]		-	2,132	-	-	2,258	-
TOTAL ALL SALMON		-	586,880	-	-	564,290	-

1 Any discrepancies in VALUE ($'000) figures are due to rounding.
2 Average Price: Canned Salmon $/48-lb. case; Other Salmon Products $/kg. Value divided by quantity may not equal average price due to rounding.
3 Includes roe for bait products.
4 Caviar products prior to 1989 were combined with other salmon roe products.
5 1990 caviar products also include suchiko products.
6 Less than 500 kilograms reported.
7 Note: The total value of "ALL SALMON" includes values for products including offal, oil, meal, etc. which could not be allocated to particular species. Also included are the value of items where less than three companies are reported. In a number of cases, however, confidential data is included if the total processed product represented by the confidential data is accounted for by three or more companies.
8 Includes offal, offal meal, oil, heads, bait, milts, animal feed, and other products.

BRITISH COLUMBIA CANNED SALMON PRODUCTION[1]
QUANTITY AND VALUE BY SPECIES - 1990

SPECIES	QUANTITY (48 lb. Cases)	WHOLESALE VALUE ($'000)	AVERAGE PRICE[2] $/48 lb. Case	NET SELLING VALUE ($'000)	AVERAGE PRICE[2] $/48 lb. Case
Red Chinook	3,528	378	107.14	359	101.53
Pink Chinook	2,848	303	106.39	269	94.24
White Chinook	628	54	85.99	50	79.65
Sockeye	731,791	172,781	236.11	159,106	217.42
Coho	53,080	8,858	166.88	8,167	153.86
Pink	777,308	93,156	119.84	85,521	110.02
Chum	115,947	12,768	110.12	11,560	99.74
Steelhead	487	50	102.23	45	93.15
TOTAL	1,685,617	288,348	-	265,077	-

1 Fish processors were requested to report both a final wholesale value and a net selling value for their canned salmon production. The final wholesale value represents gross sales based upon company invoices. The net selling value refers to the final selling price after promotions, case allowances, cash discounts and other trade discounts which may apply.

2 Value divided by quantity may not equal average price due to rounding.

BRITISH COLUMBIA CANNED SALMON PACK BY YEAR 1979 - 1990

(48 lb. Case)

	CHINOOK	SOCKEYE	COHO	PINK	CHUM	STEELHEAD	TOTAL
1979	12,953	295,858	43,061	569,337	33,689	327	955,225
1980	7,599	368,844	88,217	472,462	176,884	420	1,114,426
1981	7,839	622,490	61,333	1,020,545	87,866	472	1,800,545
1982	7,661	548,998	47,246	140,415	74,127	384	818,831
1983	4,306	371,483	60,560	996,727	47,120	331	1,480,527
1984	2,709	230,798	25,832	338,474	68,579	276	666,668
1985	4,769	583,579	39,559	1,002,477	269,070	1,025	1,900,479
1986	6,417	599,320	82,375	900,782	264,282	599	1,853,775
1987	3,667	309,597	29,546	602,539	62,909	424	1,008,682
1988	3,092	206,715	23,715	734,329	215,586	620	1,184,057
1989	8,855	634,429	66,639	935,033	100,525	235	1,745,716
1990	7,004	731,791	53,080	777,308	115,947	487	1,685,617

TABLE 16 - AVERAGE WHOLESALE PRICE OF BRITISH COLUMBIA CANNED SALMON BY YEAR 1979 - 1990

($/48 lb. Case)

	CHINOOK	SOCKEYE	COHO	PINK	CHUM	STEELHEAD
1979	82.25	159.06	132.16	103.53	93.12	93.49
1980	93.25	168.87	134.60	114.41	100.98	98.73
1981	105.01	175.17	145.55	107.87	96.34	104.22
1982	114.61	177.12	145.87	115.96	78.11	111.98
1983	103.02	178.46	136.61	97.04	93.83	112.52
1984	103.57	198.87	146.77	112.35	93.82	89.46
1985	105.87	201.61	150.18	111.38	84.69	94.39
1986	103.26	236.11	177.61	111.32	78.64	99.12
1987	102.74	266.34	176.66	128.05	100.29	126.64
1988	150.44	334.27	211.14	180.85	136.02	139.51
1989	144.33	271.37	213.06	146.80	125.26	113.37
1990	104.77	236.11	166.88	119.84	110.12	102.23

QUANTITY AND WHOLESALE VALUE OF BRITISH COLUMBIA DRESSED SALMON PRODUCTION BY SPECIES - 1990[1]

	FRESH DRESSED						FROZEN DRESSED						TOTAL		
	Head-On			Head-off			Head-On			Head-Off			fresh/Frozen Dressed		
SPECIES	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]
Red Chinook	405	2,627	6.48	98	674	6.89	300	1,827	7.03	2,879	20,890	7.23	3,682	26,018	7.14
Pink Chinook	6	38	6.19	2	13	5.38	59	449	7.63	184	1,353	7.36	251	1,853	7.38
White Chinook	60	270	4.50	18	76	4.24	1	7	4.11	284	1,679	5.91	363	2,032	5.59
Sockeye	1,640	10,590	6.46	246	1,929	7.85	3,584	28,869	8.05	6,491	52,473	8.08	11,961	93,861	7.85
Coho	821	3,290	4.01	174	957	5.51	1,298	7,559	5.82	5,165	31,925	6.18	7,458	43,731	5.86
Pink	278	753	2.71	338	980	2.90	621	1,836	2.96	2,572	7,269	2.83	3,809	10,838	2.85
Silver Brite Chum	36	121	3.35	1,409	4,879	3.46	107	493	4.60	2,858	11,780	4.12	4,410	17,273	3.92
Semi Brite Chum	91	315	3.46	531	1,835	3.45	694	2,709	3.90	2,100	7,604	3.62	3,416	12,463	3.65
Dark Chum	32	87	2.69	117	320	2.74	*	*	4.13	1,035	2,747	2.65	1,184	3,154	2.99
Steelhead	4	32	7.16	-[3]	1	3.74	30	178	6.03	11	58	4.85	45	269	5.82
TOTAL[4]	3,373	18,123	-	2,933	11,664	-	6,694	43,927	-	23,579	137,778	-	36,579	211,492	-

1 Excludes products derived from farmed salmon.
2 Value divided by quantity may not equal average price due to rounding.
3 Less than 500 kg.
4 Excludes products that were reported by less than three companies.

* Confidential. Fewer than three companies reporting.

QUANTITY AND WHOLESALE VALUE OF BRITISH COLUMBIA FROZEN DRESSED SALMON PRODUCTION BY SPECIES AND GRADE - 1990[1]

	FROZEN DRESSED HEAD-ON						FROZEN DRESSED HEAD-OFF						TOTAL		
	No. 1 Grade			Other Grades			No. 1 Grade			Other Grades			Frozen Dressed		
SPECIES	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]
Red Chinook	255	1,785	7.00	5	42	8.65	2,623	19,248	7.34	256	1,642	6.41	3,139	22,717	7.24
Pink Chinook	59	448	7.64	*	*	6.61	180	1,343	7.46	4	10	2.65	243	1,801	7.41
White Chinook	1	6	4.02	*	*	5.31	276	1,643	5.96	8	36	4.22	285	1,685	5.91
Sockeye	3,132	25,329	8.09	452	3,540	7.84	5,343	44,591	8.35	1,148	7,882	6.86	10,075	81,342	8.07
Coho	1,221	7,142	5.85	77	417	5.43	4,884	30,316	6.21	281	1,609	5.72	6,463	39,484	6.11
Pink	538	1,612	3.00	83	224	2.70	2,313	6,547	2.83	259	722	2.78	3,193	9,105	2.85
Silver Brite Chum	105	489	4.41	*	*	2.20	2,568	10,805	4.21	290	975	3.36	2,963	12,269	4.14
Semi Brite Chum	693	2,705	3.90	*	*	3.02	1,915	7,126	3.73	185	478	2.59	2,793	10,309	3.69
Dark Chum	*	*	4.13	-	-	-	931	2,575	2.77	104	172	1.65	1,035	2,747	2.65
Steelhead	29	175	6.07	*	*	4.51	11	56	4.90	*	*	3.62	40	231	5.78
TOTAL[3]	6,033	39,691	-	617	4,223	-	21,044	124,250	-	2,535	13,526	-	30,229	181,690	-

1 Excludes products derived from farmed salmon.
2 Value divided by quantity may not equal average price due to rounding.
3 Excludes products that were reported by less than three companies.

* Confidential. Fewer than three companies reporting.

QUANTITY AND WHOLESALE VALUE OF BRITISH COLUMBIA[1] HOT, COLD AND SPECIALTY SMOKED SALMON - 1990

	HOT SMOKED			COLD SMOKED			SPECIALTY SMOKED			TOTAL[3]		
SPECIES	Tonnes	$'000	Avg.$/kg[2]	Tonnes	$'000	Avg.$/kg[2]	Tonnes	$'000	Avg.$/kg[2]	Tonnes	$'000	Avg.$/kg[2]
Chinook	166	1,200	7.23	156	2,945	18.88	13	289	22.23	335	4,434	13.24
Sockeye	39	712	18.26	365	8,861	24.28	63	1,242	19.71	467	10,815	23.16
Coho	16	228	14.25	9	176	19.56	*	*	18.15	25	404	15.63
Pink	3	28	9.33	24	275	11.46	*	*	5.29	27	303	11.18
Chum	174	1,071	6.16	218	1,973	9.05	70	359	5.13	462	3,403	7.37
Steelhead	*	*	5.81	3	37	13.78	*	*	5.14	3	37	13.78
TOTAL[3]	398	3,239	-	775	14,257	-	146	1,890	-	1,319	19,396	-

1 Does not include smoked farmed salmon.
2 Value divided by quantity may not equal average price due to rounding.
3 Product totals do not include confidential data.

* Confidential. Fewer than three companies reporting.

QUANTITY AND WHOLESALE VALUE OF BRITISH COLUMBIA SALMON ROE PRODUCTS BY SPECIES AND GRADE - 1990[1]

	Caviar			Suchiko			Salmon Roe			Roe for Bait			Total Roe Products[3]		
SPECIES	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]	000 kg	$000	$/kg[2]
Chinook	*	*	26.29	4	39	8.38	4	14	4.00	9	127	12.97	17	180	10.02
Sockeye	*	*	32.37	156	1,227	7.85	348	2,605	7.49	-	-	-	504	3,832	7.60
Coho	*	*	32.07	11	106	9.50	18	96	5.44	*	*	1.87	29	202	7.01
Pink	-	-	-	91	459	5.02	158	968	6.12	-	-	-	249	1,427	5.72
Chum	151	4,596	30.22	156	1,721	2.73	238	3,006	12.63	11	53	5.16	556	9,376	16.86
Steelhead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL[3]	151	4,596	-	418	3,552	-	766	6,689	-	20	180	-	1,355	15,017	-

1 Excludes products derived from farmed salmon.
2 Value divided by quantity may not equal average price due to rounding.
3 Excludes products that were reported by less than three companies.

* Confidential. Fewer than three companies reporting.